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Dear Colleagues

The aim of my article is to reflect about our International Academy of Oto-Rhino-Laryngology and Head- Neck Surgery.

National and also International conferences are of uppermost importance. They maintain the scientific progress and the exchange in collegiality. Luckily they often lead via professional relationships to real friendships. At conferences some of us aim to find identity and others to distinguish themselves. The problem of all big events are the exploding fees. Many colleagues are not attending because of these costs and loss of income during the absence from the own office or hospital.

The International Academy ORL-HNS is founded by Prof. Plouzhnikov in 1991. Given the number of members it is a medium-sized society with some very attractive goals. Prof. Plouzhnikov succeeded in assembling colleagues from Russia, the former USSR and many other countries of the world in a multinational society of Otorhinolaryngologists. The common language is English as the communicative approach to get promising and leading colleagues out of isolation.

The aim is to share the development of knowledge and experience in our discipline in an agreeable and amicable way.

I want to emphasize that the history of ORL in Russia develops absolutely adequate along the lines of progress made in most other countries in the world.

Let me give some examples.

- Rauchfuss was already an endoscopist in Saint Petersburg in 1859
- Koshlakov of Saint Petersburg was already professor in laryngology in 1861
- Proussak (Who doesn't know the pouch of Proussak?), was in 1890 professor in otology in Saint Petersburg, also as the very first one.
- Nikolai Simanovsky installed the very first complete department of otorhinolaryngology in the eastern world, also in Saint Petersburg. In remembrance of his efforts we, the members of the International Academy, are wearing his portray on our lapel with proud.

The first journals of Russia in this young discipline were 'The ENT Monthly' and 'The ORL-Heralds', and published in the beginning of the last century.

The first conference was held in 1908 in Saint Petersburg, the second in 1910 in Moscow, and the third was held in 1914 in Kiev.

We can say without any exaggeration that Saint Petersburg is the cradle of ORL, in entire Russia the former USSR and perhaps the whole Eastern World. There is no doubt that it is one of the ORL-Centers in whole the world.

Prof. Plouzhnikov accomplished a second remarkable achievement of communication across all borders between different cultures and people. He started with the International

Contest of Young ENT-Specialists. This competition, held every two years in Saint Petersburg, has become a very prestigious event and has a worldwide reputation.

The presentations of these young colleagues are judged by an outstanding international jury. All presentations are given in English and are animated with PowerPoint presentations according to the international standards. The progress over the years is remarkable. A top 10 place in the ranking is of a high esteem all over the world, and decorates the CV of the awarded colleagues. From all jury members prestigious prizes are given to the first 10 to 15 laureates.

This splendid idea of Prof. Plouzhnikov promotes the research of young colleagues, trains their communicative ambitious and introduces them to the international community of otorhinolaryngologists.

The third merit of Prof. Plouzhnikov is our own journal, the so called 'Folia Otorhinolaryngologiae et Pathologiae Respiratoriae' which is published in English and Russian.

From my perspective as a member of the International Academy of Oto-Rhino-Laryngology and Head-Neck Surgery, I'm convinced about the noble intentions of this society. Many attractive assemblies have taken place. However, certain things remain to be done:

- We have to think about the future, in which young colleagues are invited to join and support our activities in partnership, respect and confidence.
- Encouraging the colleagues from Central-Europe to join us again. Many of the colleagues from Poland, the Baltic countries, Hungary, Czech Republic, Slovakia, Bulgaria, Romania and the countries of the former Yugoslavia, are members from the very start. Unfortunately few are actively attending the conferences. Since these colleagues are very familiar with the spirit of the International Academy they could be the optimal glue in-between and could help tremendously. Political arguments from the past are no longer acceptable. We are ENT- colleagues and that's our common substrate.
- English has to be accepted as the preferred language of communication without any national or personal sentiments for this choice.
- We should publish regularly in our Journal.
- The costs should be stable and kept as low as possible, but payment of the annual fee for membership should be done promptly.

Dear colleagues, I gave my personal impression and hope we do have a strong base for existence, even after the sad decease of Marius S.Plouzhnikov. I am sure that Prof. George Tavartkiladze, who is the new elected President of our society, will lead the academy in an excellent manner. We also wish the elected Chairman of the ORL-HNS department of Saint Petersburg, Prof. Sergei Karpischenko, all the very best.

I want to thank, on behalf of all members, our founder and first president Prof.M.S.Plouzhnikov for his outstanding and never-relenting effort. Our deepest feelings of grief are shared with his family, friends and colleagues in Saint Petersburg.

Prof.Dr.med.Dr.h.c.Bert Schmelzer

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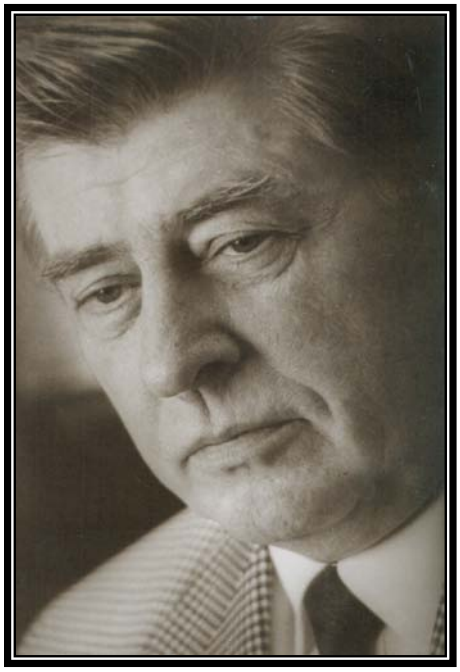
Head of the ENT-Dept. ZNA Middelheim-Antwerp/Belgium

Obituary

Professor Marius Plouzhnikov, Professor and Chairman of Otorhinolaryngology, President of International Academy of Otorhinolaryngology and Head and Neck Surgery, St Petersburg Russia 1938 - 2008



With heartfelt regret we announce the death of Marius Plouzhnikov on 16th September 2008.

We give thanks for his many gifts and rejoice at the international recognition of his work received before his life was cut short. Even during his ill health he was actively involved with his work and interacted with many international friends and colleagues. His humour, insight, and unassuming presence are still warmly felt.

He was a surgeon, writer, poet and musician. He had passion in whatever he did. Above all, his quality was expressed in his friendships. I remember him telling us, "Our friends are very exceptional and are a great asset to our lives. They share with us the good and the bad throughout life and give us a boost when it is needed." It is true that death leaves a heartache no one can heal, but love leaves a memory that no one can take away.

We have been lucky to know and to interact with such a friend. We had spent much of our latter years in Marius's company, either in Russia or in other countries where laser congresses were held, and at other times we made friendly visits to each other. The last visit made by Marius was when he attended our son David's wedding in September 2007.

Marius came from a cultured family. His father noticed his talent in languages, and therefore organised for him to have extra lessons in English during his summer holidays. He had a love for all people. His wish was to get as many countries as possible to communicate in science, in particular in the field of ENT and laser technology and in literature. He was Chief Editor of Folia Otorhinolaryngologica, an international journal published in English and in the Russian language. In 2004 Folia Otorhinolaryngologiae et Pathlogiae Respiratoriae Suplementum No 2 published some of his literary short stories and his poetry.

He published more than 300 medical articles and books in the field of otorhinolaryngology and in literature. He was an invited guest speaker at many international congresses around the world, and visited the United Kingdom on many occasions for that purpose.

The death of Marius will leave a great hole in the fabric of Russian otorhinolaryngological circles and in literature generally, more particularly amongst his friends and colleagues, but most of all, in his lovely family.

Roxana and Kenneth Chapman

Памяти профессора Мариуса Стефановича Плужникова

Ректорат, Ученый Совет, сотрудники кафедры оториноларингологии с клиникой СПбГМУ им. акад. И.П.Павлова извещают о том, что после тяжелой продолжительной болезни 16 сентября скончался заведующий кафедрой оториноларингологии с клиникой профессор Мариус Стефанович Плужников.

Профессор М.С. Плужников родился в 1938 году в г. Ленинграде, в семье врачей. Профессор М.С. Плужников всю свою жизнь посвятил медицине. Закончил 1 ЛМИ им. акад. И.П.Павлова в 1962 году. Пройдя путь от студента до заведующего кафедрой нашего университета, Заслуженного Деятеля науки РФ.

В 2002 году получил премию «Призвание» – как лучший врач России.

В 2008 году был удостоен самого высокого звания нашего университета – «Почетный Доктор Санкт-Петербургского университета им. акад. И.П.Павлова». Награжден правительственными наградами.

Возглавив кафедру оториноларингологии в 1976 году, сделал ее одним из основных центров оториноларингологии в нашей стране. Создал свою школу. Под его руководством защищены 47 кандидатских и 10 докторских диссертаций. Являлся автором более 450 научных работ, из них 11 монографий и учебников по оториноларингологии.

Мариус Стефанович был прекрасным педагогом. В стенах кафедры, под его руководством прошли обучение более ста молодых специалистов. Его ученики работают на самых ответственных постах во многих странах ближнего и дальнего зарубежья.

Профессор М. С. Плужников – признанный авторитет в специальности. С 1989 году возглавил Всесоюзное Научное Общество оториноларингологов. С 1991 года является Президентом Международной Академии Оториноларингологии – Хирургии Головы и Шеи – престижной организации, имеющей в своем составе более 100 выдающихся ученых всего мира.

В 1998 году он был избран действительным членом Российской Академии Естественных Наук, Лазерной Академии Наук, Медико-технической Академии. Является Почетным членом Польской Академии Наук и Действительным Членом Германского Научного Общества Ларингологов.

Мариус Стефанович внес неоценимый вклад в образование и воспитание молодых врачей оториноларингологов. В течение 23 лет под его руководством проводились конференции молодых ученых. Многие молодые специалисты получили «путевку в большую науку» благодаря Мариусу Стефановичу.

Прекрасное знание иностранного языка, личное обаяние, прекрасные человеческие качества позволили объединить оториноларингологов многих стран и открыли молодым врачам возможность обучаться в зарубежных клиниках. По признанию иностранных ученых именно Мариус Стефанович стал тем «мостом» между Западом и Востоком, который позволил это осуществить. Мариус Стефанович был талантливым писателем. Его рассказы, в том числе, посвященные старейшим сотрудникам нашего университета, являются не только высоко художественным произведением, но и имеют большое историко-педагогическое значение.

В течение многих лет Мариус Стефанович консультировал жителей города Ленинграда – Санкт-Петербурга. Будучи блестящим хирургом, разработал новые методы хирургического лечения, спас жизнь и здоровье тысяч людей.

Он пользовался большим уважением и любовью больных и всего коллектива университета.

Память о Мариусе Стефановиче навсегда сохранится в наших сердцах.

THE DIFFERENTIAL APPROACH IN THE TREATMENT OF CHRONIC POLYPOUS RHINOSINUSITIS

G. Z. Piskunov
Russian Medical Academy of Postgraduate Education

This question springs to mind immediately, what nosological form of disease is going to be discussed? And this is a rather difficult question to answer. Doctors rarely put this diagnosis down in out-patient histories and in-patient records. The terms “rhinosinusitis” and “polypous rhinosinusitis” are commonly used in the EPOS 2007. At the same time, we know that some of the sinuses may be left out of the inflammatory process. Ethmoiditis, or polypous maxillary-ethmoidal sinusitis, or a different sinusitis may develop. It is important in this case that the rhinogenic nature of the inflammation of the mucosa in the paranasal sinuses is emphasized.

The discussion concerning inflammation of the mucosa in the nasal cavity and paranasal sinuses will go on for many years, and the scale will go tipped to one side or the other, depending on the accumulated scientific information about the mucosa, its importance in man, its disorder, as well as on the availability of such information to participants of this discussion. It is scientific information indeed that serves as a vital basis for discussion and the development of well-founded treatment modalities that employ pharmaceutical means or the use of functional radical rhinosinosurgery.

In the current situation, one cannot deny that the development of contemporary functional rhinosinosurgery was first and foremost based on scientific data reflecting the physiology of the mucosa that lines the nose and the paranasal sinuses, and information on the pathogenesis of the inflammation of this mucosa, and only after that modern technical achievements, such as endoscopes, microscopes, shavers etc., came into use. The arrival of the new technical means did not mark the beginning of functional radical rhinosinosurgery, as the first-time use of the microscope and endoscopes for diagnostic purposes and in rhinosurgery can be dated back to the beginning of the twentieth century. Otorhinolaryngologists were among the first to arm themselves with endoscopic techniques. The first attempt to use an endoscope in rhinology was made in 1901 when Hirschmann employed a modified cystoscope to examine the nasal cavity, as well as the maxillary sinus through an opening bored in the canine fossa region using a drill. W. Spielberg (1922) modified this technique and offered to introduce the endoscope into the sinus through an opening bored with a trocar in the lateral wall of the inferior nasal meatus. M. Maltz (1925) introduced the very term “sinoscopy” and developed endoscopes with side optics, which became a foretype of those currently in use; however, the development of optical endoscopy virtually ceased in the next 30 years, and relevant publications were only sporadic.

Common use of endoscopic diagnostic and surgical rhinology started in the 1960’s. W. Messerklinger (1970; 1978) developed a theoretical rationale and physiological concepts for this method. It is basically his works that we are obliged to for the becoming of the endoscopic diagnostic and endoscopic surgical technique the way we have it today. Thanks to W. Messerklinger, endoscopic rhinosurgery did not become a new opportunity in intranasal surgery and endoscopy but rather introduced a new philosophy in the treatment of sinusitis as a whole.

During the almost forty years that the conception of W. Messerklinger has been around, thousands of scientific studies have been carried out, issues of functional rhinosinosurgery have been discussed at international and national congresses, and methods of state-of-the-art endoscopic and microscopic surgery have been used in all countries of the

world. This is why saying that functional rhinosinosurgery methods are proofless (Pal'chun V. T., 2002) is incorrect to say the least.

But let us get back to the central argument, what is polyposis? Both international and Russian literature has started to feature the terms "rhinosinusitis" and "polypous rhinosinusitis." How correct are they as far as characterization of the pathological process is concerned? Will they find their place in everyday clinical practice? Questions again. Considering the fact that the process in the nasal cavity plays the leading role in the development of sinusitis, the term "rhinosinusitis" has a just cause to be used. One should then obviously mention what kind of rhinosinusitis is meant: maxillary, ethmoidal, etc.

Literature data and our own experience are rather convincing in that polyposis is not a uniform process unfolding in the nasal cavity and paranasal sinuses. And since it is not a uniform process, a differentiated approach to its treatment has to be assumed. I will express here my own outlook on the treatment of polypous rhinosinusitis, which is based on modern literature data on mucosal inflammation and personal clinical experience.

Polyposis is multifaceted. It is unanimously thought to be an inflammation rather than a neoplastic process. Histologically, polyps have some common manifestations. A polyp is covered with ciliated epithelium, the basal membrane is thickened. The stroma of a polyp is oedematous. Fluid content in the stroma and the number of vessels are dependent on how long-standing the polyp is – the "older" it is the less fluid and the more vessels. There are few glands in polyps. The stroma features various types of cells, but whereas eosinophils prevail in some polyps, neutrophil leukocytes dominate in the others. Large amounts of biologically active substances are present in polyp tissues. Polyp eosinophils live longer than those in other tissues, thanks to interleukin-5. There are practically no nerve-endings in polyps.

The causes of polyposis are multivarious. The development of polyposis has been proved to originate from disturbed aerodynamics in the nasal cavity and paranasal sinuses, i. e. altered direction of the major current of air. A number of studies devoted to this problem has been carried out at the Kursk Medical University (Piskunov S. Z., 1995; Zavyalov F. N., 1998; Guryev I. S., Piskunov V. S., 2000; Piskunov V. S., 2002) and the Central Clinical Hospital of the Medical Centre of the Presidential Administration of the Russian Federation (Lopatin A. S., Bykova V. P., Artsybasheva M. V., 1998).

Polyposis is the result of chronic suppurative inflammation in the nasal cavity and paranasal sinuses. There are no data supportive of a role of an immunoglobulin E-dependent allergic reaction in the development of polyposis. Bykova V. P. (1975) explains this fact pointing at the process of complete regeneration and functional recovery of the mucosa unfolding in the period when there is no pollination in it. The mucosa thus becomes normal physiologically by the next episode of seasonal rhinitis. This is encouraging with regard to attempts to make correctly administered therapies, which are aimed not only at the allergic process alone, successful. A role of other types of allergic reactions, in particular autoallergy, in the development of polyposis cannot be ruled out. In recent years, fungal flora has been assigned a special role in the development of polyposis. This flora is regarded as the primitive cause of inflammatory processes, including polyposis. The aspirin triad, which is in dependence on the disturbed metabolism of arachidonic acid, is a specific type of polyposis. In this case, a general abnormality of the whole body is evident. Just as in the case of Kartagener's syndrome and in mucoviscidosis.

The combination of polypous rhinosinusitis and bronchial asthma, their interrelationship and interdependence have been proven; however, not every patient with polypous rhinosinusitis suffers from bronchial asthma and not every patient with bronchial asthma suffers from polypous rhinosinusitis. Which disorder is the first to develop, polypous rhinosinusitis or bronchial asthma, has not been established. The pathogenesis of polypous rhinosinusitis is complex, and there is no commonly adopted theory as to the cause and progression of polyps.

Bernstein describes the pathogenesis of polyposis sequaciously and in accordance with the current conception of polypous rhinosinusitis (M. Bernstein, 1997). The altered aerodynamics of the air current changes the epithelium of the lateral wall in the nasal cavity. Polluting agents precipitate on the epithelium. Additionally, viral, bacterial, and allergic diseases cause the immunological reactivity of the lateral nasal wall to increase. Macrophages accumulate on the epithelium and the lamina propria of nasal polyps. They change the epithelium, and potentiate ribonucleic acid for the synthesis of granulocyte-monocyte-colony stimulating factor and granulocyte-colony stimulating factor (GM-CSF, G-CSF). These factors increase local levels of eosinophils, mast cells, and neutrophils. Inflammatory mediators interrupt the ion transport mechanism (sodium absorption is activated and / or chlorine secretion increased). This overactive ion transport causes water retention in the cells and the lamina propria of polyps, which results in cellular interstitial oedema, as well as growth and persistence of nasal polyps. Eosinophils produce cationic protein and basic protein, which promote damage to the epithelium. Neutrophils, mast cells produce up to 15 types of prostaglandins, histamine, leukotrienes, and kinins. Corticosteroids inhibit inflammatory mediators. This is a very brief description of the polypous process.

A. W. Proetz (1941) described the fundamental principles of paranasal sinus surgery as follows:

1. When possible, the sinus should be preserved as a functioning mechanism.
2. The natural anastomosis should be left untouched whenever the situation permits.
3. If possible, the sinus should be opened in such a manner that the current of inhaled air is not directed immediately into its cavity.
4. Interventions on the nasal septum and turbinates should not change the direction of the inhaled air current towards the natural openings of the paranasal sinuses.

These principles agree with the current conception of functional endoscopic and microscopic rhinosinosurgery.

In 2003, I published an article titled “Nasal, paranasal polyposis and its treatment” in Rossiiskaya Rinologiya Journal. This article included a proposition, which was based on the literature data and my own clinical experience, to discriminate the following forms of polypous rhinosinusitis in practice:

1. Polyposis resulting from impaired aerodynamics in the nasal cavity and paranasal sinuses.
2. Polyposis resulting from chronic suppurative inflammation of the mucosa in the nasal cavity and paranasal sinuses.
3. Polyposis resulting from fungal disease of the mucosa.
4. Polyposis resulting from disturbed metabolism of arachidonic acid.
5. Polyposis in mucoviscidosis, Kartagener’s syndrome.

Assuming these five different types of nasal and paranasal polyposis, which may appear to have much in common at first sight, let us try and figure out the way these polyposis types are.

Polyposis resulting from impaired aerodynamics. Having completed a series of experimental studies, A. W. Proetz (1941) came to the conclusion that an operator on the paranasal sinuses should make sure that the current of inhaled air does not enter the sinus. If the air current does go into the sinus, mucociliary transport comes to a halt. A series of studies carried out under the supervision of S. Z. Piskunov have demonstrated that excessive aeration of the paranasal sinuses results in the formation of choanal polyps. This type of polyposis has been divided into separate clinical forms depending on specific localization of the polyp in the

sinus or the nasal cavity. The histological structure of choanal polyps has been studied, and it has been demonstrated that they develop as a result of mucous inflammation and the development of polyps stems from the formation of pseudocysts. New research data on this polyposis type have provided a rationale for the surgical approach aiming to remove the entire polyp from the sinus it originates from and change the aerodynamic environment in the nasal cavity, rather than just tearing off the polyp using a retractor. To do so, correction of the intranasal structures should be performed simultaneously with the removal of pikes and crests that direct the air current into the middle nasal meatus, in particular towards the posterior fontanelle. The position of the turbinates should be corrected as well. Surgical treatment performed in this manner will result in a stable improvement, and no recurrence of polyposis will occur. The microscope and the endoscope significantly improve the quality of the surgical treatment of choanal polyps.

A study carried out by V. S. Piskunov (2002) has clearly demonstrated how altered aerodynamics of the nasal cavity results in inflammation of the mucosa of the anterior portion of the middle turbinate thus causing chronic inflammation and hypertrophy of the anterior turbinate portion. This process is followed up by the ostiomeatal complex coupled with inflammation in the anterior group of the ethmoidal cells. Later on, the process involves other cells as well. Such sinusitis starts to develop independently of any acute respiratory infection, unlike in most other cases. Such sinusitis is prone to chronic progression and association with polyposis. Polyps may appear not only on the anterior portion of the middle turbinate (polypous alteration, polypoid hypertrophy) but also along the margin of the uncus, in the frontal recess. Corrective surgery on the nasal septum, mildly invasive intervention on the ostiomeatal complex structures is associated with good surgical results. Polyposis resulting from impaired aerodynamics in the nasal cavity does not require any pharmacotherapy to prevent recurrence in the postoperative period. In most cases, symptomatic therapy is administered in the hospital period and during polyclinic monitoring, until the wound surfaces heal up. The nasal cavity is irrigated with saline, and fibrin and crusts are removed.

Polyposis resulting from chronic suppurative inflammation of the sinuses. The pathogenesis of this polyposis is based on rhinogenic sinusitis developing after an acute respiratory infection. In this case, bacterial microflora presents the leading cause of disease. Anatomical alterations predisposing to a chronic process can be frequently found, such as nasal septum deviation, uncus hypertrophy, a large ethmoidal bulla, etc. According to the state-of-the-art conception of endoscopic and microscopic rhinosinosurgery, a patient with polypous-suppurative sinusitis should have surgery on the involved sinuses aiming to eliminate anatomical abnormalities in the structure of the nasal cavity and the ostiomeatal complex structures. The anastomoses with the nasal cavity should be restored, the conditions for adequate aeration of the sinuses ensured, and the polyps and pus removed, but the mucosa of the sinuses, even an oedematous one, should not be excised. Such patients will undoubtedly require pharmacotherapy, both topical treatment and, in many cases, systemic therapy. It makes sense to establish the microbiological cause of the inflammation before the operation, i. e. the type of the pathogenic microorganism and its sensitivity to antibiotics. This information will provide reason for the administration of targeted therapy. Antibiotic therapy is preferably initiated one day before surgery and continued for the duration of the convalescence period, with all requirements set for antibacterial therapy taken into account. Topical antibacterial therapy, both with antibiotics and antiseptics, appears advantageous. The use of the NMIC-catheter improves results of surgical treatment. Topical corticosteroids may be used in these patients, but only in a short course, and its duration is determined by the treating physician. In practice, corticosteroids can be administered in these patients for one to three months. In the postoperative period, the sinuses are irrigated until it is absolutely clear that evacuation of the discharge and mucus from the sinuses is complete. Sometimes this will require continuous monitoring and topical treatment for up to five to six months. The sinuses

are irrigated once weekly, and antiseptics are employed for this purpose in most cases (octenisept, furacillin, dioxidine). Evacuation from the frontal, sphenoidal, and ethmoidal sinuses is restored rather quickly, within two to three weeks. Evacuation from the maxillary sinuses is harder to recover. This is due to the considerable size of these sinuses, disruption of the ciliary field as a result of the operation, and the aggressive nature of the infection. Surgical treatment of such patients followed by pharmacotherapy yields good immediate and long-term results. No recurrence of polyposis is observed in 80 – 85% of patients (V. S. Kozlov, 1998). The shorter the history of the chronic process the greater the chance of a positive outcome, and it is also better in first-time surgical interventions. The use of the shaver system improves results of surgical treatment. The shaver system enables surgeons to remove polyps in a more accurate manner and inflict less damage upon the mucosa of the turbinates. Without a doubt, patients require dynamic monitoring until they completely recover. It is difficult to obtain a high percentage of positive outcomes without additional pharmacotherapy. The surgical intervention should be regarded as a procedure that is necessary for the subsequent successful pharmacotherapy.

Polyposis resulting from fungal disease of the mucosa in the nasal cavity and paranasal sinuses is more aggressive than polyposis from bacterial damage. Since we most frequently deal with non-invasive sinus damage, topical antimycotic treatment administered in the postoperative period produces good results. Sometimes systemic antimycotic therapy has to be given as well, but not with levorin or nystatin. Diflucan has performed well. Given at dose 50 to 100 mg, it can be administered in the long-term. Eosinophils play the key role in the pathogenesis of fungal infection-based polyposis, as fungi draw eosinophils into the mucosa. Eosinophils, in their turn, inflict basic protein-mediated damage upon the mucosa thus rendering the process chronic. Interleukin-5 promotes longer life of polyp eosinophils. All of this makes the progression of the polypous process more aggressive and renders patients predisposed to recurrence of polyposis.

Polyposis in patients with the aspirin triad is most difficult to treat. This condition is known to be the combination of polypous polysinusitis, bronchial asthma, and intolerance of nonspecific anti-inflammatory drugs (NSAID). The basis of this condition is a disturbance in the metabolism of arachidonic acid. It is in fact not simply a disease of the paranasal sinuses that is made manifest in the polypous process. It is rather a disease of the entire body, and management plans for these patients should include counseling by specialists in other fields. Bronchial asthma and polypous polysinusitis may be combined without the presence of NSAID intolerance. Clinically, this inflammation of the sinuses presents a suppurative-polypous polysinusitis, and treatment results in this condition are better than those in the presence of NSAID intolerance. There is even a difference in the appearance of polyps. They are denser in suppurative disease and do not form an all-over polypous mucus-like accumulation as in NSAID intolerance. In patients with the aspirin triad, the paranasal sinuses are filled with rubber-like discharge, which is hard to separate from the sinus walls and aspirate. This discharge will often feature whitish or brown inclusions of fungal mycelium. Surgical treatment alone will not yield positive results in patients with the aspirin triad. The polyposis will soon recur. A special approach is required when operating on these patients. Since the combination of polypous sinusitis and bronchial asthma (whether in the presence of NSAID intolerance or in isolated combination with bronchial asthma) may lead to an exacerbation of the polypous process in the postoperative period, such patients should be prepared before surgery. We have developed relevant recommendations, and the attempts to modernize the preparation approaches should be carried on (A. S. Lopatin et al., 1998; A. A. Shirshova, 2001). The patient should be dynamically and continuously monitored in the postoperative period. Topical corticosteroids are administered for a long period of time. The paranasal sinuses should be irrigated until they have been reliably cleared of the discharge. Such patients require particularly intensive monitoring in the first three months after surgery.

If no pharmacotherapy is provided in this period, a relapse of polyposis will occur. We do not recommend to wait until the polyps have grown to the stage where nasal respiration becomes difficult. Polyps should be removed as soon as they are discovered. The patient will feel better during surgery, and the operation can be carried out in out-patient settings. Corticosteroid therapy should be coupled with topical antibacterial or antimycotic treatment. Endoscopic and microscopic rhinosinosurgery in polyposis provides an opportunity to remove all polyps from the paranasal sinuses rather thoroughly while preserving the portions of mucosa, even inflamed ones, which are not involved in the pathological process. Those involved in microscopic and endoscopic rhinosinosurgery will confirm that there are no areas in the paranasal sinuses inaccessible for instrumental manipulation. If necessary, the entire mucosa can be removed in any sinus, but modern surgery does not require this. This level of thoroughness in the removal of polyps cannot be achieved with radical surgery. Firstly, radical surgery in its practice is predominantly aimed at the maxillary sinuses, and the ethmoidal sinuses remain an open question, as some polyps cannot be removed from them without optical equipment. Radical surgery does not go well with the rhinogenicity of the process in the paranasal sinuses; it should be remembered that the inflammation originates in the middle nasal meatus (with the exception of odontogenic maxillary sinusitis), and endoscopic and microscopic rhinosurgery is based on this fact.

Topical therapy variants are abundant, and the aim of this work is to draw attention to the diversity of polyposis forms, which require different therapeutic approaches, rather than to inform about types of therapy. A study by N. G. Chuchueva (2002) contained an analysis of failures of endoscopic functional rhinosinosurgery and outlining of patient groups in which pharmacotherapy (both topical and systemic) is indispensable.

How big should the anastomosis formed in the middle nasal meatus be? On the one hand, air should not enter the sinus cavity immediately; on the other hand, uninterrupted ventilation of the sinus has to be ensured and the right conditions for evacuation of the discharge and mucus created. There is no univocal answer to this question. In my practice, I do the following. I remove only the polyp and perform a mildly invasive intervention in patients with recurrent suppurative maxillary-ethmoidal sinusitis associated with the formation of small polyps on the edge of the uncus or at the anastomosis, on the side of the maxillary sinus cavity (A. S. Lopatin, 1998). In suppurative-polypous conditions, I form an anastomosis big enough to perform continuous irrigation of the sinuses without additional anaesthesia or the use of vasoconstrictive agents. The anastomosis is usually 4 to 5 mm in diameter. With this anastomosis, a standard cannula (2 mm in diameter) can be effortlessly introduced into the sinus, and irrigation is easy. In the combination of polypous sinusitis and bronchial asthma, I form a maximally wide anastomosis. It extends from the origin of the uncus to the very posterior portions of the maxillary sinus. I smooth out the threshold between the sinus and the base of the middle nasal meatus as much as I can. I form maximal possible (but big enough to allow irrigation) anastomoses with the frontal and sphenoidal sinuses. I try not to touch the mucosa of the anterior wall of the frontal-nasal anastomosis, and dilate the anastomosis to the rear using the ethmoidal sinuses. I open the sphenoidal sinus downward and medially to 4 or 5 mm; open all ethmoidal sinuses without removing the mucosa from the roof of the ethmoidal labyrinth.

In mucoviscidosis and Kartagener's syndrome, removal of polyps can be considered a symptomatic treatment, as the polyposis will inevitably recur, no matter how thorough the polyp removal was. Mucoviscidosis is characterized by cystic fibrosis of the pancreas, involvement of the gland's secretory cells, increased viscosity of the secretion; it is a congenital disorder. Kartagener's syndrome is a genetic disease (autosomal recessively inherited disorder), which is accompanied by bronchiectasis, polypous rhinosinusitis, and combined with situs inversus. Kartagener's syndrome is characterized by impaired ciliary and flagellate movements, which is associated with the failure of mucociliary clearance and

male sterility. All these diseases have a common nature, and it hardly makes sense to perform major surgical interventions in such patients.

Therefore, we can see several types of the polypous process in the nasal cavity and paranasal sinuses. There is a practical need for differential diagnosis of the polypous process type, because this will help determine the nature and the extent of surgical intervention, as well as whether topical and systemic pharmacotherapies are needed. Many questions are difficult to answer, because studies have to be conducted to solve the problems. Unfortunately, there is not a single scientific otorhinolaryngological institution in Russia that would be able to carry out a targeted study of the polypous process, which is due to the absence of material resources and a relevant programme.

Considered the above and adhering to the principle of dividing polypous rhinosinusitis into groups by the most probable causal factor, we have conducted an analysis of long-term monitoring of 1,312 patients with polypous rhinosinusitis observed between 1992 and 2002. Information was taken from operative logs, case records, and out-patient histories. All subjects were divided into groups depending on results of diagnostic evaluations. Evaluations included collecting the medical history, preoperative endoscopic examination, computed tomography of the paranasal sinuses, and microbiological tests for the presence of bacterial and fungal microflora. All patients underwent enough diagnostic evaluation to enable the planned surgical treatment. Data for long-term results assessment were taken from the out-patient histories. Patients with nasal septum deviation, with turbinate hypertrophy, including bullous alterations of the middle turbinates, were assigned to the group of polypous rhinosinusitis most probably resulting from impaired aerodynamics in the nasal cavity. These patients reported the onset of their disease as gradually developing impaired nasal respiration. They had used vasoconstrictive agents for a long time. Patients with purulent discharge in the nasal cavity were not included. This group also comprised patients with choanal polyps. The total number of subjects was 336.

Patients with suppurative discharge in the nasal cavity and pus in the maxillary sinuses obtained on their paracentesis were assigned to the group of bacterial polypous rhinosinusitis.

Onset of disease in these patients was in connection with an acute respiratory infection. These patients were on irregular treatment and were not compliant with their drug therapy regimen, or received no treatment for their acute condition at all. In some of the patients, pharmacotherapy and the puncture did not result in a positive outcome, and the condition became chronic. These patients were also frequently diagnosed with nasal septum deviation and altered turbinate structure. Polyps of the nasal cavity were located in the middle nasal meatus and well vascularized, and were rather reminiscent of granulation tissue but were also covered with epithelium. This group consisted of 405 patients.

The group of probable fungal sinus disease included patients in whom computed tomography (CT) of the maxillary sinuses had revealed findings suspicious for a fungal body, 260 subjects in total. These patients had a history of tooth interventions. On CT, a shadow of a foreign body had been visualized in the sinuses. During surgery, dark accumulations were observed in the sinus; they were sometimes covered with a fluffy incrustation. Fungal tests rarely confirmed the presence of fungi, but this must have been due to test defects. The process frequently was unilateral. The purulent discharge had an unpleasant odour. The polyps had the same appearance as in patients with bacterial inflammation. Bacterial microflora was also naturally identified in patients with a fungal body in the sinus. The inflammatory process was fungal-bacterial in fact.

The fourth group was comprised of patients with bronchial asthma, 309 patients in total. This condition was either present in combination with intolerance of nonspecific anti-inflammatory drugs or isolated. The polyposis was always characterized by a bilateral process, the polyps obstructed the nasal cavity, and their vascularization was less pronounced. Adhesive rubber-like discharge was observed in the paranasal sinuses.

The fifth group consisted of two subjects with mucoviscidosis. They were referred to the Mucoviscidosis Centre after surgery.

All patients underwent endoscopic surgery that was based on the principles of functional endoscopic rhinosinosurgery. All causes potentially interfering with the recovery of normal nasal respiration were eliminated during the operation. It has to be mentioned that many patients had already undergone different surgical interventions before – from radical surgery on the maxillary and frontal sinuses to simple loop polypotomy. We adhered to the following algorithm during the operation. First of all, submucosal resection of the nasal septum was carried out, whenever it was deviated. After that, all involved paranasal sinuses were opened. Purulence, polyps, cysts, and the fungal body were removed from the sinus cavities. The ethmoidal sinuses were completely opened, but the mucosa on the roof of the ethmoidal labyrinth was left untouched. If the middle turbinates had not been removed during previous interventions, they were left in their place. A shaver was used to remove polyps. The procedure was ended up with correction of the turbinates, because this part of the operation was associated with the most intensive bleeding; the correction was followed by nasal packing with elastic tampons. No conchotomy was carried out. The lower turbinates were displaced laterally, and submucosal vasotomy or radiocoagulation ensued. The posterior portions of the lower turbinates, which had signs of hypertrophy, were removed, which opened the choanae. The tampons were removed the next day after surgery. On the following days, the nasal cavity was treated with the antiseptic octenisept diluted to the ratio of 1:6 twice daily, and mucus and crusts were evacuated. The sinuses were washed on the fourth day after the procedure. Patients were discharged for subsequent ambulatory monitoring on day five.

While under ambulatory observation, patients were monitored until absolutely no discharge came from the sinuses as they were washed through the restored anastomosis. Irrigations were carried out one or two times every week. Patients with impaired aerodynamics as the assumptive cause of polypous rhinosinusitis did not receive antibiotics. In bacterial or fungal disease, antibiotics were administered in an individual manner, in a course of up to ten days.

Each patient group could be described in more detail, but that would take up a considerable portion of this publication. The principal objective of our analysis is to demonstrate treatment results achieved in patients with polypous rhinosinusitis differentiated according to the most probable assumptive cause of the disease.

In the first patient group, no recurrence of polyposis was registered in the ten-year observation period in 322 out of 336 subjects, i. e. 96%. These patients recovered appropriate nasal respiration and considered themselves practically healthy. The inflammatory process relapsed and promoted the formation of oedematous tissue areas in the middle meatus when the patient had synechiae or frequent relapses of acute rhinosinusitis. Synechiotomy entailed positive results.

In the second patient group, no recurrence of polyposis was documented in 344 out of 405 subjects, i. e. 85%. Recurrence occurred in patients predisposed to common cold and acute rhinosinusitis. Patients with a history of frequent operations and those producing discharge containing *Pseudomonas aeruginosa* were the most difficult to treat.

In the third group of patients, positive outcomes were seen in 228 out of 260 patients, i. e. 88%. Polyposis relapses were due to the same causes as in second group patients. But bacterial microflora was predominant in this group.

The fourth group was the most complex one. Armed with functional endoscopic rhinosinosurgery, we believed that thorough removal of polyps, facilitating aeration of the paranasal sinuses, and recovery of physiological nasal respiration would yield a positive result. In order to avoid exacerbation of the bronchial process, patients were administered a short course of systemic corticosteroid therapy before surgery – prednisolone 30 mg

intravenously for three preoperative days and two post-procedure days. There were no registered exacerbations of the bronchial process. Unfortunately though, we did not achieve good results in the treatment of polyposis. The initial data analysis demonstrated that 96.9% of patients (among 146 individuals undergoing surgery) had a recurrence of polyposis within three years after the procedure, and another operation was required in these patients. Only 20.8% of the patients we monitored were newly diagnosed with polypous rhinosinusitis. The rest of these patients had a history of multiple previous operations. For the most part, they had had polypotomy carried out in out-patient or hospital settings. Resection of the nasal septum and conchotomy were administered. Radical surgery was performed on the maxillary sinuses, and sometimes on the frontal sinuses. Despite this, polyposis continued to recur, and we carried out surgical interventions based on the functional rhinosinosurgery principles and techniques in these patients.

We reviewed each year separately analyzing this group of patients. Only 9% of patients who had surgery in 1992 remained relapse-free by 2000. Among those operated on in 1993, outcomes were somewhat better. There had been no relapses in 12.5% of subjects. Patients were referred for repeated surgery. The proportion of positive outcomes grew in subsequent years, and the frequency of repeat surgery went down. A conclusion is shaping that the relapse rate depends on the duration of the patient's follow-up, which appears quite logical. However, deeper analysis revealed that patients who had surgery in 1992 – 1994 developed a polyposis relapse soon after the operation and 18.2% of patients had three repeat operations in this period, while 27.3% of subjects had two procedures. From 1992 to 1994, relapse rates were rather high in the first and second years of observation, whereas there was not a single relapse within the first two years of observation in the period lasting from 1995 to 1997. In the third year of observation, relapses did occur, and in subsequent years the relapse rates were approximately the same for the third year after the performed procedure (22.7%, 26.3%, and 28.5%), which produced an average percentage of 25.8%.

Active use of pharmacotherapy, in particular topical corticosteroids, was one of the major causes of the reduction in relapse rates of the polypous process. On the other hand, the surgical intervention and dynamic monitoring procedures were improved as well. Polyclinic doctors examined the nasal cavity more carefully. There was less frequent middle nasal meatus scarring blocking the anastomosis between the sinuses on repeat surgery. The ethmoidal cells were opened in a more thorough manner, and ethmoidal cells were left unopened less frequently. A maximally broad anastomosis with the maxillary sinus was formed, which provided an opportunity to treat exacerbations of the inflammatory process by topically applying antiseptics and antibiotics coupled with the NMIC-method or irrigation of the sinuses using the anastomosis. Polyposis recurrence occurred in patients with persistent inflammatory processes or those discontinuing to apply topical corticosteroids.

It was evident that surgical treatment alone did not guarantee desirable results. Along with systemic preoperative short-course corticosteroid therapy, we employed local treatment using topical corticosteroid therapy. Most frequently we used nasonex nasally, one dose twice daily, for a long period of time (at least six months). Our subsequent analysis demonstrated that the next 133 subjects developed relapses only in 30.1% of cases in the subsequent three years. A group of 30 patients was recruited; they were prepared preoperatively by the administration of three courses of plasmapheresis. After surgery, topical corticosteroids were administered for a long time. No relapses of polyposis were registered in these patients within five years.

The long-term treatment results analysis we conducted in patients with polypous rhinosinusitis in the 1990's convinced us that a differentiated approach had to be employed in the treatment of this complex condition. It was quite apparent that correct monitoring of these patients had to be instituted. We distinguish four observation periods: preoperative

preparation of the patient, the early hospital period, the early ambulatory period, and the dynamic monitoring period.

Preoperative preparation of the patient was carried out in ambulatory settings. Conventional evaluations and tests were administered for elective surgery patients. Besides, patients with bronchial asthma were counseled by an internist or a pulmonologist. All patients underwent computed tomography of the paranasal sinuses, anterior active rhinomanometry, acoustic rhinometry, the ciliary epithelium function test, and middle nasal meatus microflora tests. Endoscopy of the nasal cavity was done. Depending on results of these evaluations, specific leading possible causes of polypous rhinosinusitis were presumed in patients.

The early or hospital period included the operation itself and hospital management of the patient. Depending on the type of polypous rhinosinusitis, systemic therapy was initiated, which included corticosteroid preparation in patients with bronchial asthma. On day four, all accessed sinuses were washed and topical corticosteroids administered. The patient was discharged on day five.

In the early ambulatory period, the patient made frequent visits to the doctor, two or three times every week. The nasal cavity and the sinuses were washed with the 1:6 octenisept solution, and the patient was trained to irrigate his or her nose with saline (aqua maris, physiomer, or saline in special vials). The patient was regularly reminded of the need to use topical corticosteroids. Most frequently, we recommended nasonex as the corticosteroid with the best bioavailability parameters and receptor affinity. The duration of the early ambulatory period was individual, it sometimes lasted for up to one month. Our major target was to ensure clear paranasal sinuses, so that no clots of mucus or purulence came out when the sinuses were irrigated.

We established dynamic monitoring periods in the following manner: there had to be at least one year of dynamic monitoring in patients with polypous rhinosinusitis aetiologically associated with impaired aerodynamics in the nasal cavity and paranasal sinuses, inflammation caused by bacterial or fungal microflora, provided that the treatment outcome was positive (the patient was practically healthy). After the hospital treatment phase was over, we recommended patients with polypous rhinosinusitis to come to otorhinolaryngological examinations on a regular basis, monthly in the first three months after surgery and once every six months thereafter. A physician examination had to be ensured for every case of acute respiratory infection, and treatment of any acute respiratory infection had to go under medical control. After that period, the patient could be excluded from the dynamic monitoring list.

The combination of polypous rhinosinusitis and bronchial asthma requires preoperative preparation and continuous dynamic monitoring. Surgical treatment must be coupled with topical corticosteroid therapy, and the time frame and duration of the latter have to be determined on an individual basis. Those operated on in autumn received topical corticosteroid therapy until June of the following year, i. e. for the whole duration of the cold season. Corticosteroid therapy was discontinued for the period beginning at the end of May or start of June, provided that the process progression was favourable (no relapses, free nasal respiration, no discharge in the sinuses), right until September. When the patient was examined in September, we decided whether topical corticosteroid therapy had to be resumed or withheld. In the event of an acute respiratory infection and predisposition to mucosal oedema, we re-administered corticosteroids in a course lasting at least one month. Further administration of corticosteroids depended on obtained results. Patients with polypous rhinosinusitis and bronchial asthma have to receive continuous dynamic monitoring. Proper care and topical corticosteroid therapy form the basis of a successful outcome, although they cannot be a guarantee.

We decided to test our opinion on the need for a differential approach in the treatment of polypous rhinosinusitis and the organization of monitoring in patients with polypous

rhinosinusitis in our further studies. To do this, we analyzed long-term results of treating patients with polypous rhinosinusitis who underwent surgery in the period from 2002 to 2007, in a total of 417 patients.

If one compares the results obtained in first group subjects (1,312 patients) with those of second group subjects (417 patients), the following comes into view. Approximately the same results were obtained for long-term observation in the first three patient subgroups. Results were somewhat better in patients with polypous rhinosinusitis combined with bronchial asthma than in those assigned to the second group. We believe that this was achieved thanks to the more active use of pharmacotherapy and the organization of continuous dynamic monitoring. We said to these patients: if you want to be healthy, don't forget that you are an ill person. Come to visit your doctor regularly, as arranged, even if nothing ails you. Visit your doctor whenever you contract an acute respiratory infection. Do not discontinue the prescribed treatment on your own, without consulting your treating physician.

Our analysis of case records of patients with polypous rhinosinusitis, as well as the long-term results, have demonstrated the practical value of dividing patients according to the leading aetiological and pathogenetic characteristics. Among patients whose leading cause of polypous rhinosinusitis was impaired aerodynamics in the nasal cavity and paranasal sinuses, rates of achieved positive outcomes varied between 96% and 94.33% in each of the recruited groups with surgical treatment alone (the former percentage is for patients of the 1,312-strong group and the latter for the 417 patients group). In patients with bacterial or fungal flora as the leading cause of the disease, positive outcomes were achieved when surgical treatment was combined with antibacterial or antimycotic therapy. In those with predominantly bacterial flora, positive outcomes accounted for 85% to 90.16% of cases and in those with a fungal condition, for 88% to 86.21% of cases. Patients with polypous rhinosinusitis combined with bronchial asthma received preoperative preparation and continuous dynamic monitoring. Surgical treatment and topical corticosteroid therapy administered with individual timing and duration resulted in positive outcomes in 74.2% of the 1,312 patients group. In the 417-strong group, outcomes were positive in 80.9% of all cases. We demonstrated the practical value of simultaneous endoscopic surgical interventions on all diseased paranasal sinuses and intranasal structures, which were aimed to restore respiratory function, aeration of the sinuses, and elimination of the polypous process. The endoscopic technique provides an opportunity to make the intervention that extensive.

One of the possible causes of process recurrence could be that the patient discontinued to use topical corticosteroids and did not comply with the doctor's recommendations, because the postoperative patient felt rather healthy and did not pay enough attention to the remaining or recurring symptoms of the inflammation. The results we obtained convinced us of the need to establish continuous dynamic monitoring of patients and use topical corticosteroids over a prolonged period of time.

The work we have completed has produced another confirmation that Russian otorhinolaryngologists still do not take the rhinogenic origin of rhinosinusitis into account as the leading cause of the disease. Alterations of the nasal cavity's anatomical structures (both congenital and acquired) are a predisposing factor for the development of rhinosinusitis, which may become polypous later on. The principal function of the nasal cavity, i. e. the respiratory one, has to be restored first of all. In this case, nasal septum deviation surgery, even in patients with adequate nasal respiration on one side, should be regarded as a means of prophylaxis. The nasal and paranasal mucosa has to be cared for and preserved, as it is the major protective barrier of the upper airways and the entire body, which enables protection from environmental impacts. The endoscopic and microscopic methods of the contemporary surgical treatment strategy have absolutely answered expectations, both in theory and in practice, and they need to be commonly adopted in health care. The radical methods of

surgical treatment are mutilating and should be replaced with the functional ones. Functional endoscopic and microscopic techniques provide an opportunity to carry out the entire necessary surgery in one procedure, which allows the patient to suffer less and reduces the expenses both for the patient and the state. A patient undergoing functional surgery can hope for a positive treatment outcome even after a relapse occurs, because the mucosa is preserved in this case and its subsequent treatment can halt the inflammatory process, provided that appropriate drug therapy and thorough dynamic monitoring of the patient are delivered. Those having radical surgery become patients for all life in many cases, particular when polypous rhinosinusitis is combined with bronchial asthma and especially so if the patient undergoes conchotomy and has an "empty nose" formed.

As the results of our observations show, failures in the treatment of patients with polypous rhinosinusitis included an imperfect technique in forming the anastomosis in the middle nasal meatus during the initial operation. Stenosis of the first-procedure anastomosis. Flawed postoperative management of patients. Immunological deficiency and allergy. The presence of bronchial asthma and intolerance of nonspecific anti-inflammatory drugs make the clinical situation special. Persistent inflammation caused by pathogenic microflora, in particular Pseudomonas aeruginosa, requires prolonged antibacterial therapy.

We recommend that practitioners adhere to the following strategy. When a patient is counseled or examined during scheduled visits, attention should be directed to the appearance of the intranasal structures, and functional tests (anterior active rhinomanometry and acoustic rhinometry) have to be carried out when possible. If functional disturbances or alterations of the anatomical structures in the nasal cavity are observed, recommend the patient to have a scheduled correction of the intranasal structures done according to the functional rhinosinosurgery principles, and regard this as a means to prevent polypous rhinosinusitis. When examining patients with polypous rhinosinusitis, the leading aetiological and pathogenetic cause of the chronicity of this process has to be determined. Based on this cause, plan a treatment that should use the functional rhinosinosurgery approaches and couple them with drug therapy that should depend on the aetiology of the process. This will provide an opportunity to select an appropriate treatment modality, pharmaceutical therapies, and to predict the outcome of this treatment. Patients with polypous rhinosinusitis and bronchial asthma have to be administered continuous topical corticosteroid therapy. They should receive constant dynamic monitoring. Otorhinolaryngologists and pulmonologists should be involved in the management of such patients. This condition requires further study that should use fundamental medical research approaches. In patients with mucoviscidosis or Kartagener's syndrome, removal of polyps should be considered a symptomatic measure, because the polyposis recurs very shortly after the operation. Surgery allows to restore nasal respiration, while systematic nasal cavity care will improve the patient's condition.

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AUDITORY IMPLANTATION INTO THE MODIOLUS – FICTION OR FUTURE

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Introduction: Nowadays cochlear implantation is a routine procedure, but still has some limitations and disadvantages.

Hypothesis: The aim of the study was to assess the anatomical predispositions for successful accomplishment of modiolar implantation of human temporal bone.

Methods: The topographic location of the modiolus and especially of its apical part has been studied for planning of an appropriate surgical approach. An experimental electrode was introduced into the modiolus of 10 human temporal bones. This was accomplished via cochleostomy at the anterior pyramidal surface along canalis longitudinalis modioly from the apex to the basis of the cochlea.

Results: The histological investigations did not show impairment of significant modiolar structures.

Conclusion: Based on the experiment's results we can consider the placement of a modiolar electrode as an alternative to standard cochlear implantation. Modiolar implantation may have substantial advantages in cases of total cochlear ossification.

Keywords: modiolus, implantation, otosurgery

Introduction

Nowadays cochlear implantation is a routine procedure, but still has some limitations and disadvantages.

Scala tympani is preferable for electrode implantation, but the implanted electrode can cause erosion of the bone through the endosteum and may provoke an aseptic inflammatory reaction. However, it has been observed that long-term implantation results in a relatively mild tissue response within the cochlea (1).

Significant new bone formation is frequently seen close to the cochleostomy and is associated with trauma to the endosteum and/or the introduction of bone chips into the cochlea at the time of surgery. Electrode insertion trauma, involving the osseous spiral lamina or basilar membrane, is more common in reimplanted cochleas. This damage is usually restricted to the lower basal turn and results in a more extensive ganglion cell loss (2).

The chance for successful implantation is questionable in patients with middle or internal ear malformations, in cases after radical mastoidectomy or chronic otitis media. Another major problem - cochlear ossification, is also not rare in cochlear implant candidates. It may occur as a consequence of meningitis, chronic otitis media, severe otosclerosis, autoimmune inner ear diseases (Cogan syndrome), temporal bone traumas, etc. The most common region of cochlear ossification, regardless of its aetiology, is the basal turn (3, 4). This is due to the fact that subarachnoid inflammation reaches the cochlea through the cochlear aqueduct or internal auditory canal, and middle ear inflammation spreads across the round and oval windows – structures, located in close proximity to the basal turn. Ossification at the round window and proximal basal turn can cause difficulty with electrode placement.

The management of ossified cochlea still represents a challenge for surgeons, performing implantations. In the last 2 decades have been developed several techniques for cochlear implantation in ossified cochlea. Gantz et al. (5) described the total drill-out technique, which was modified by Balkany et al. (6) - intact canal wall drill-out procedure. Cohen and Waltzman (7) proposed the short inferior tunnel insertion; Lenarz et al. (8) - the double electrode array.

Cochlear implantation has been reported in partially and totally ossified cochleae, using various technical adaptations in electrode array and surgical procedure, however the functional results remain poorer. This could be explained by the worse contact between the electrodes and the nerve endings, and peripheral nerve degeneration in the cochlea, associated with the ossification.

The interface between the electrode and cochlear nerve is a key area, in which improvements of cochlear implantation might be effected. Notable decrease in stimulation threshold currents and power consumption could be achieved by an electrode, implanted directly into the cochlear nerve.

The use of penetrating electrode is not a new idea. Simmons (9) described cochlear nerve implantation, performed with six stainless steel electrodes wound around each other and insulated to the tips. Hillman and al. (10) developed an array of silicon-based electrode needles - the so called Utah Slanted Electrode Array. This array, with 3-dimensional penetrating electrode architecture, achieves more focal stimulation than a scalar array and, as a result, greater frequency selectivity.

Colletti et al. (11, 12) are among the first authors, who use middle cranial fossa approach for cochlear implantation with good results. The electrode is introduced into the basal turn of the cochlea. One of the advantages of this method is that middle ear is bypassed and in this way the risk of infection – lowered.

Hypothesis

In order to bypass the tympanic cavity (in cases of infections) and ossified or aberrant cochlear duct (in cases of anomalies or ossification), we decided to study the chances for direct implantation of the electrode into the modiolus.

Methods

Our experiment was carried out on ten human cadaver formalinized temporal bones. With adequate exposure of the middle cranial fossa floor and after identification of the greater superficial petrous nerve and the internal auditory canal, drilling was started at the bony angle between labyrinthine portion of the facial nerve and greater superficial petrous nerve. After "cochleostomy" was performed, the top of the modiolus, surrounded by the apical cochlear coil was visualized (fig.1). Measurements of its depth were made. A thin probe was inserted through the central portion of the modiolus from top to bottom (fig.2). A plastic electrode was then introduced into the canal, produced by the probe (fig.3). A thorough histological study of modioli, obtained from human cadavers was carried out.

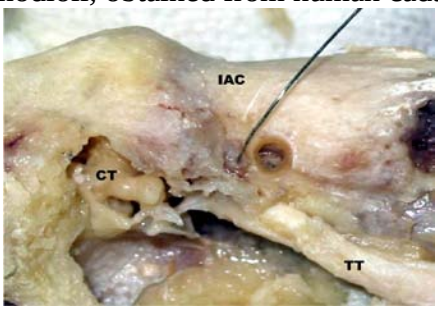


Fig.1 *The probe shows ganglion geniculi. Greater petrosal nerve is resected. Medially and anteriorly to ganglion geniculi is seen the cochleostomy. IAC – internal auditory canal; CT – cavum tympani; TT – m. tensor tympani.*

Fig.2 *The probe is inserted from the top to the bottom of the modiolus. The apical cochlear coil is also visible.*

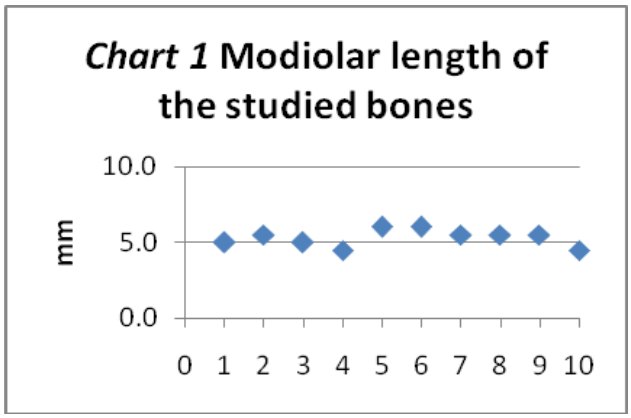
Fig.3 *This is an electrode inserted along the central modiolar axis. Its correlation to the cochlea is seen. The length of the bar is 1mm.*

Results and discussion

It is well known that the cochlea is in contact with the anterior petrous wall in its anterosuperior region. The superior edge of the cupola cochleae is located about 2 mm under and just medially and anteriorly to the ganglion geniculi. As surgical landmarks in our experiments, we used the arcuate eminence, the internal auditory canal and especially the greater superficial petrosal nerve. The disclosure of cupola cochleae sometimes required petrous nerve resection.

In the course of a surgical approach from the squamous temporal bone, the roof of the petrous bone is followed medially, and one encounters in turn the roof of the tegmen, the irregular projections of the arcuate eminence and the geniculate area, and finally the flattened meatal area, which is easily identifiable by its plateau-like appearance. The dura mater of the middle cranial fossa can be dissected off easily until the meatal area is reached. There it becomes closely adherent. It is also fixed posteriorly along the superior border of the petrous bone, where the superior petrosal sinus runs, and anteromedially, over the region of the Gasserian ganglion and the carotid canal. The first part of the basal turn, which is situated beneath the vestibule and the internal auditory meatus, continues forwards close to the anterior wall of the meatus. Cupola cochleae is adjacent by its upper surface to the anterior cortex of the petrous bone. It is located medially to the geniculate ganglion, and just posteriorly to the hiatus of the petrosal nerves, At this point it is very unusual to encounter any air cells during cochleostomy. Particular care must by taken not to injure ganglion geniculi. It is very close to the place of potential cochleostomy and usually is covered just by a thin sheet of acellular dense bone (13). It must be kept in mind that the geniculate ganglion is often partially dehiscent and in some cases, the bony canal between the ganglion and the point of emergence of the petrosal nerves may be 2 or 3mm long.

On Chart.1 are shown the measured lengths along the modiolar axis of the 10 temporal bones.



The calculated average length of the modiolus is 5.3 mm, (SD = 0.537) The modiolar nerve fibers join to form the Cochlear nerve 2-3 mm after leaving the tractus spiralis foraminosus. (fig.4). This means that electrode with length of about 8 -10 mm can be implanted without fatal damage the nerve trunk. Nowadays there are electrodes with such dimensions. For example the “Nucleus Hybrid” 10 mm with 6 half-banded electrodes and MED-EL compressed electrode array - 12 pairs of electrode contacts equally spaced over a length of 12.1 mm (fig.5).

The electrode-neural interface is very important for signal transduction. Scalar electrode arrays have limitations in the specificity of neural stimulation, because of the comparatively low number of effective channels, which can provide information. If a safe and reliable intraneural electrode system could be developed, improvement in stimulation specificity is possible.

We studied the modiolus with light microscopy and stereomicroscopy aiming to enlighten the possible placement of an electrode along its axis. Our examination of longitudinal sections of the modiolus revealed spiral ganglion cells and their axons (fig.6). They course downwards spirally and form the cochlear nerve. During stereomicroscopic dissection of the human cochleae, the cochlear nerve was observed at the base of the cochlea (fig.4) and along the modiolus from the basal coil to the apex.

Fig.4 *A longitudinal section through the cochlea and internal auditory meatus is performed. The basal, middle and apical turns of the cochlea are shown. The separate nerve fibers join to form auditory nerve trunk about 2 mm after emerging from tractus spiralis foraminosus*

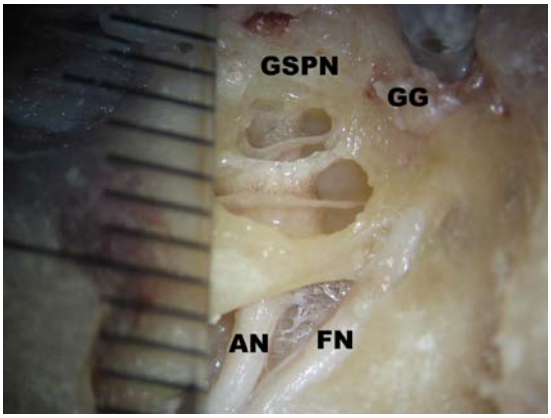


Fig.5 *This photo shows a longitudinal section through the cocnlea. GSPN – greater petrosal nerve; GG – ganglion geniculi; AN – auditory nerve; FN – facial nerve. The distance between marks is 1mm.*

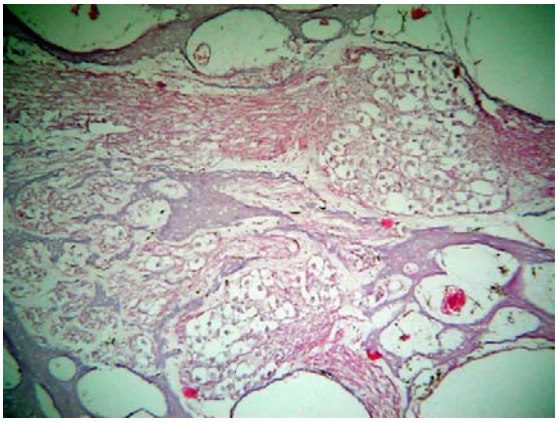


Fig.6 *A peripheral section through the modiolus shows the presence of numerous spiral ganglion cell bodies (HE x 30)*

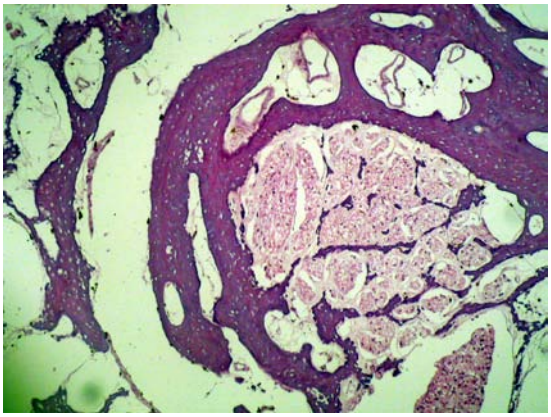


Fig.7 *Transversal section through the modiolus and basal cochlear turn (HE x 20)*

Measurements of the length of modiolar axis were made (fig.5). The central processes of the neurons of the spiral ganglion pass through spiral canals immerging from the cochlear coil and fusing into a single longitudinal canal to form the cochlear nerve.

The modioli obtained from human cadavers were also observed by light microscopy. Light microscopic investigation of the serial sections perpendicular to the axis of the modiolus also showed the longitudinal canals and initial portion of the cochlear nerve clearly. The spongious bony structure of the modiolus was located just around the nerve fibers. Transverse sections show many small oblique canals around (fig. 7, 8).

The bodies of auditory neurons are located into Rosenthal's canal, spirally wound around the modiolus (fig.6). The modiolus itself is a spongiose bone structure with multiple canals containing the axons of ganglion cells.

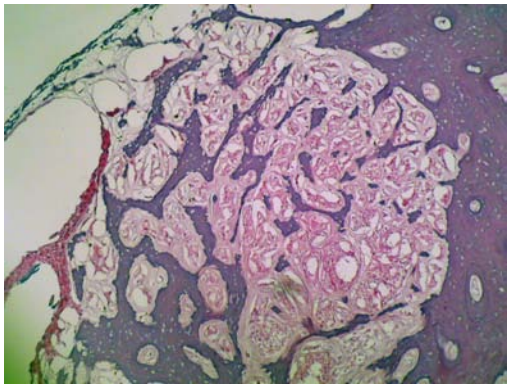


Fig.8 *Transversal section through the modiolus (HE x 40)*

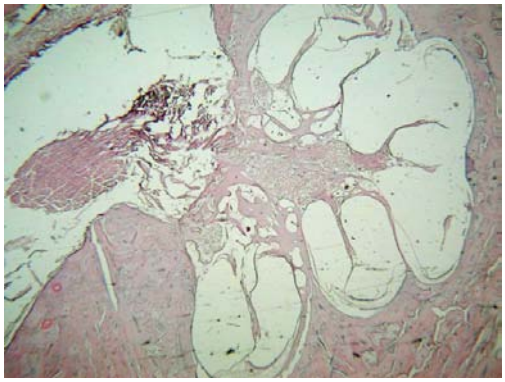


Fig.9 *On this section is demonstrated the absence of significant blood vessels running along the modiolar axis. (HE x 12)*

The density of innervation, as measured by the presence of neurons, is highest in the upper basal and lower middle coils (12). Sacrifice of nerve fibers and neurons at the apical part of the modiolus would not have serious consequences in voice perception.

Arterial blood supply to the cochlea is maintained by an artery running spirally around the modiolus. Arterioles leave the artery running centrifugally and radiate both over the scala vestibuli and over the spiral lamina, ramifying several times. The spiral capillary systems in the external wall and in the spiral lamina are drained by centripetally radiating collecting venules which empty into one or two veins running spirally around the modiolus (13). This supports our observations that in the central part of the modiolus there are no blood vessels, which could raise bleeding problem during the implantation (fig.9).

Conclusions

The structure of petrous bone allows relatively harmless opening of the cochlea through middle cranial fossa. The superior edge of the cupola cochleae is under and just medially and anteriorly to the ganglion geniculi. The arcuate eminence, the internal auditory canal and especially the greater superficial petrosal nerve can serve as reliable surgical landmarks. A relatively broader cochleostomy facilitates the visualization of modiolar apex, surrounded by the apical cochlear turn. An electrode with a length of about 8 - 10 mm could be introduced into the modiolus without impairment of important modiolar structures. We believe that the electrode design should be in accordance with the tonotopical organization of the cochlea by releasing the higher frequencies at the basal part of modiolus and lower in the apical part.

Based on the experiment's results we can consider the placement of a modiolar electrode as an alternative to standard cochlear implantation. Modiolar implantation may have substantial advantages in cases of total cochlear ossification.

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SURGICAL TREATMENT OF LOCAL TUMORS AND TUMOR-LIKE DESEASE OF PARANASAL SINUSES

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Treatment of local tumors and tumor-like disease of paranasal sinuses is one of the most difficult parts of practical rhinology and head and neck surgery.

Surgical intervention occupies the leading place in the treatment of majority of the diseases.

A decision regarding an approach to the removal and surgical methods of removing a massive tumor in paranasal sinuses and surrounding anatomical areas is made based on results of a comprehensive clinical study.

The evaluation (including computer tomography and pathomorphological study) and treatment are aimed at establishing the following:

1. The role of CT in pre-verification diagnosis and determining the size of neoplasm.
2. Selection of an approach to removing local tumors of the upper jaw and paranasal sinuses.
3. Basic methods of surgical intervention in parasinual neoplasms.
4. Dealing with post-surgical conditions in order to alleviate possible complications, and facial and base of the skull defects.

The study was performed in 144 patients; out of them, 98 had primary tumors and tumor-like neoplasms located in paranasal sinuses; in majority of cases, neoplasm extended into surrounding anatomical areas; 46 patients had secondary neoplasms of the paranasal sinuses or their deformation.

Malignant neoplasms of paranasal sinuses in 64 patients

Primary tumor tissue							
Epithelial	**n**	**Mesenchymal**	**n**	**Neural**	**n**	**Lympho-epithelial**	**n**
SCC	12	Sarcoma	2	Melanoma	1	Lymphoepithelioma	1
SCC with no keratin	23	Angiosarcoma	1				
Adenocarsinoma	1	Lymphosarcoma	3				
Cylinder cellular	3	Fibrosarcoma	1				
Transitional cellular	4	Chondrosarcoma	1				
Anaplastic	1						
Nondifferentiated	4						
Lowdifferentiated	5						
Embryonic	1						
TOTAL	54		8		1		1

Benign and tumor-like disease in 80 patients

Primary tumor tissue					
Epithelial	**n**	**Mesenchymal**	**n**	**Disease**	n
Inverted papilloma	2	Fibroma	1	Paget's disease (Osteitis deformans)	1
		Angiofibroma	1	Fibrous osteodysplasia	1
		Fibrous cementoma	2	Fibrous polyp	8
		Sclerose hemangioma	1	Cysts Echinococcus Epidermal Retention	3 1 1
		Cavernous hemangioma	1	Osteomyelitis	1
		Osteoblastoclastoma	1	Actinomycosis	1
		Osteoma	3	Cerebral hernia	2
		Chondroma	1		
		Juvenile angiofibroma	48		
TOTAL	2		59		19

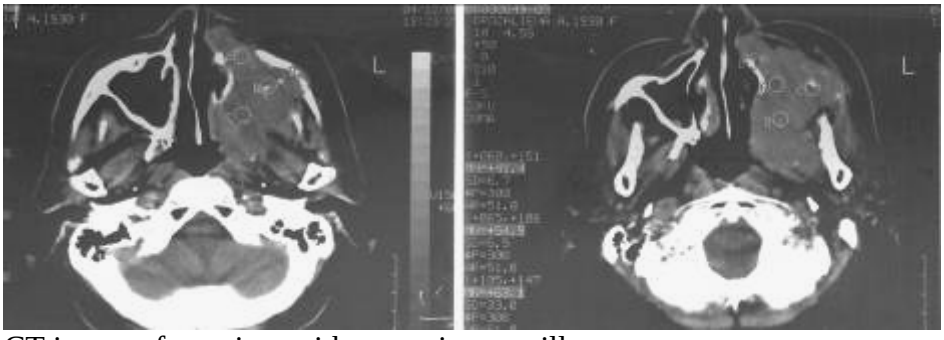
Comparative assessment of CT data and results of pathomorphologic study for verification of different variants of massive destructive process in the upper jaw

Pathomorphologic data	Malignant tumor		Benign tumor and tumor-like disease	
	Number of cases	Percent of total (%)	Number of cases	Percent of total (%)
Coincidence with CT data	51	96.2*	39	90.7*
No coincidence with CT data	2	3.8	4	9.3
TOTAL	53	100	43	100

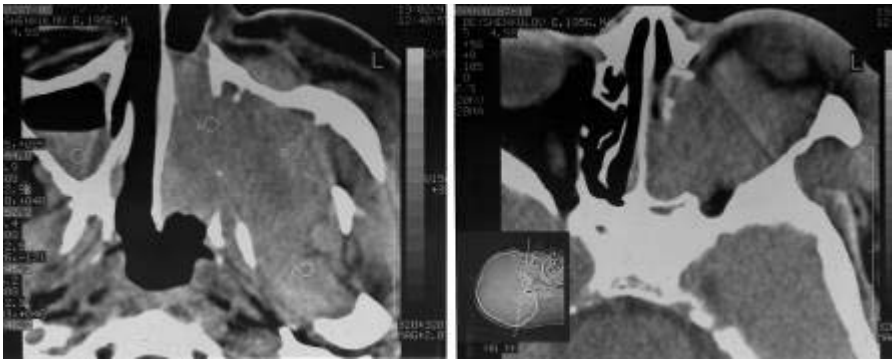
Note: * p<0.001

Differential CT diagnosis of symptoms characteristic for main parameters of malignant epithelial tumor (cancer), benign tumor and tumor-like disease

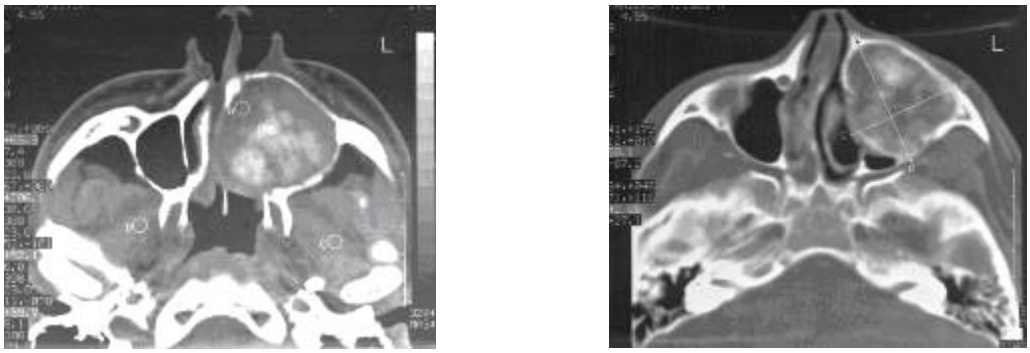
CT symptoms	Malignant epithelial tumors	Benign tumor and tumor-like disease
Shadow	Soft tissue with patches of lesser density and of irregular shape	Variety of shapes – homogeneous, with small and medium-size patches, cloud-like, soft-tissue/bony, fluid, sometimes with rounded contour inside
Density	From +34 HU to +66HU (+51±5.5HU); +10 to +15 HU lower in destruction areas	+70±7.8HU in soft tissue structure; +206 HU and +438 in cloud-like neoplasm, in sclerous hemangioma and fibrous osteodysplasia, respectively;+120±400HU in chondroma, over 400HU in osteoma, less than +25HU in fluid neoplasm
Borders	Determined by bony structures or air surrounding the tumor; sometimes not clear due to similar density with adjacent healthy tissues	Easy to determine either by displaced bone or by density that is different from surrounding tissues, or by presence of layers.
Bone condition	Infiltrating osteolysis-type destruction	Displacement of bone with increasing thinning up to breaking into fragments or to a defect due to osteoporosis as a result of pressure
Presence of bone fragments	May be present in rapidly growing neoplasm; have signs of marked infiltration osteolysis in central parts of the shadow, starting from peripheral areas	Very seldom can be chaotically located in the shadow, without signs of infiltration osteolysis (extensive juvenile angiofibroma)



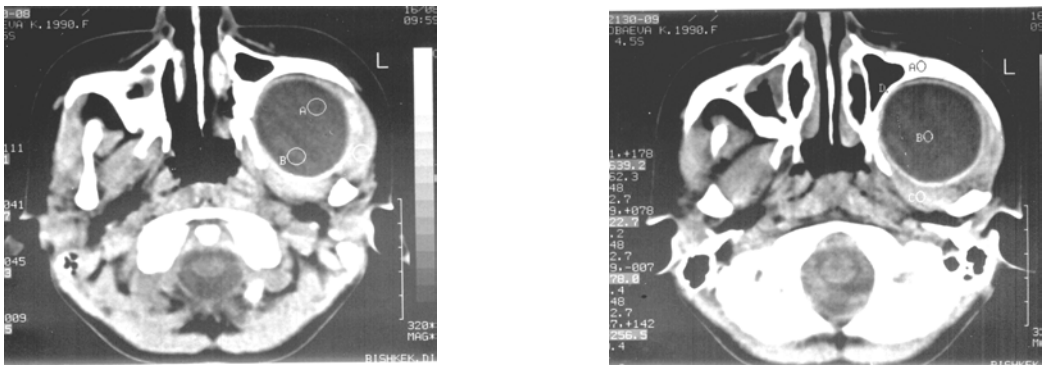
CT image of a patient with extensive maxillary cancer



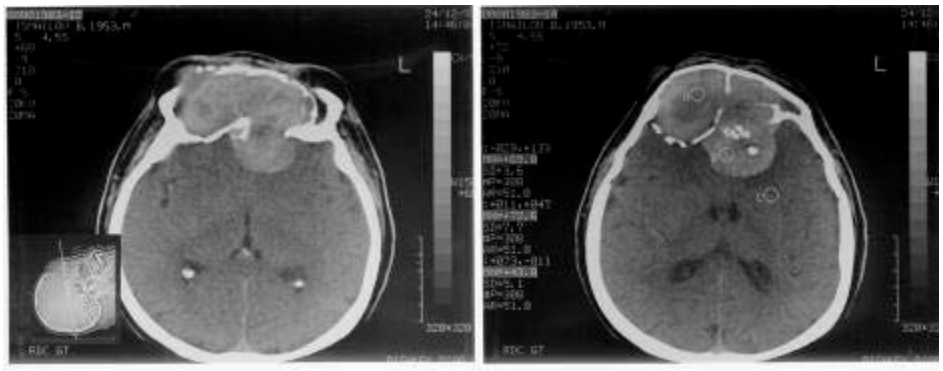
CT image of a patient with extensive maxillary cancer.



CT image of a patient with sclerous hemangioma and fibrous osteodysplasia.



CT image of a patient with extensive maxillary echinococcal cyst.



CT image of a patient with extensive fibroma of frontal sinus, ethmoid labyrinth and orbital cavity, extending through frontal sinus posterior wall into anterior cranial fossa.

Computer tomography can be used for the following:

1. to control results of pathomorphological study of biopsy samples;
2. to make diagnosis in cases when biopsy is impossible or there are specific signs of massive neoplasm;
3. to assess the tumor size in order to plan surgical intervention and determine the irradiation area in malignant neoplasm responsive to this type of treatment.

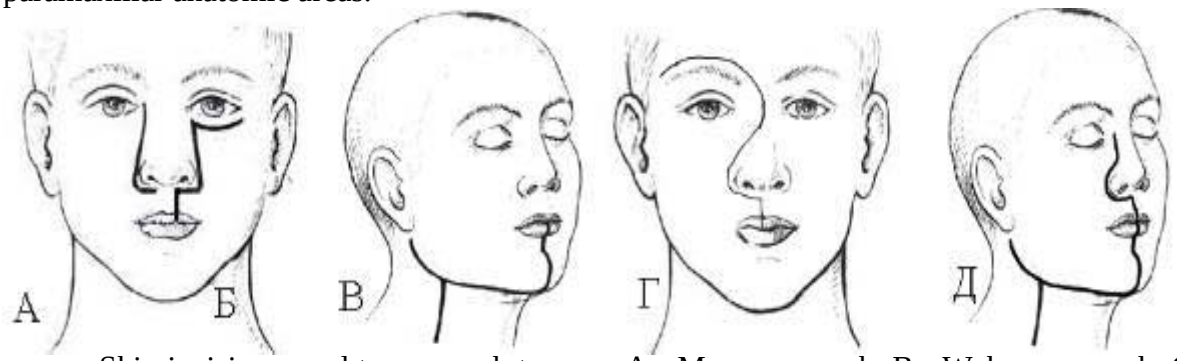
Unlike in case of benign neoplasms, surgical intervention cannot be strongly recommended to patients with malignant local epithelial tumors of paranasal sinuses and adjacent areas.

However, surgery is still a treatment of choice, especially in highly differentiated forms of cancer; when needed, it should be combined with chemotherapy and irradiation.

We removed four angiofibromas and five fibrous polyps through natural approaches.

In some cases tumors or tumor-like neoplasms were reached through commonly used approaches to upper jaw and frontal sinuses and through the most sparing Moor external approach.

The natural and Moor approach often did not allow removing local tumors and tumor-like neoplasm of the upper jaw and rhinopharynx. In such cases, conventional external approaches were used. They allowed controlled surgical intervention, including distal parts of paramaxillar anatomic areas.



Skin incisions used to approach tumors: A - Moor approach, B - Weber approach, C - Lauers-Balon approach, D - extended lateral rhynotomy, E - Lauers-Balon modified approach combined with lateral rhynotomy

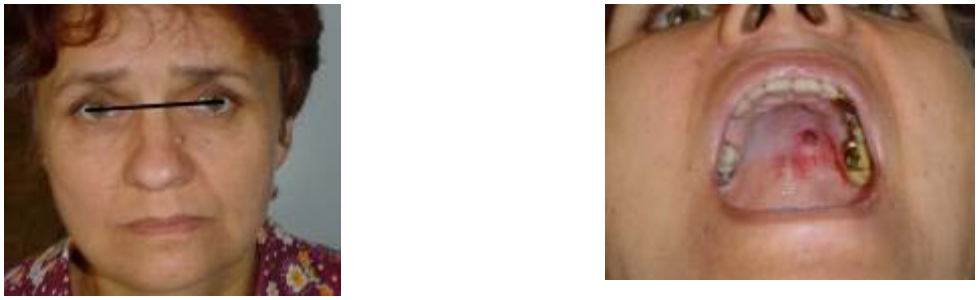
Steps of removing local tumor of maxillary sinus using the Weber approach.

Drawbacks of the Weber approach:

1. Possibility of operative wound gaping defects between the bridge of the nose and the orbital/suborbital edge.

2. Limited use in cases when maxillary sinus tumor extends beyond the sinus within inferior/interior and inferior/exterior paramaxillary anatomic tissues, and there is no need to remove orbital cavity content together with the tissue block to be removed.

In stead of the Weber approach, the Lauers-Balon approach is recommended in maxillary sinus malignant tumor with infiltration extending beyond the inferior/interior and inferior/exterior paramaxillary anatomic tissues and in the absence of signs of orbital cavity involvement.



View of the patient before the operation. Hard palate defect is observed.


Steps of removing maxillary sinus local tumor using the Lauers-Balon approach.



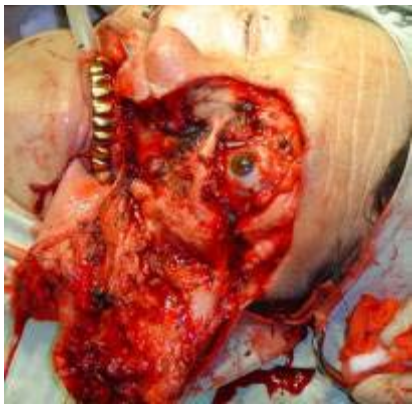
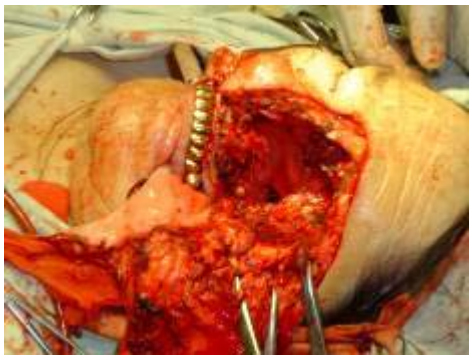
The picture of a patient, 2 months after the operation.

Advantages of the Lauers-Balon approach as compared to the Weber approach include:

1. No danger of operative wound gaping defects between the bridge of the nose and the orbital/suborbital edge.
2. Better cosmetic appearance – post-operative scar is less conspicuous in submaxillary rather than in chin area.
3. It is as good as the Weber approach for removing maxillary tumor and its infiltration to paramaxillary anatomic tissues, except for cases when neoplasm extends into supratemporal fossa area.

If maxillary tumor extends not only into pterygopalatine fossa and retromandibular space but also into orbital socket areas above and under temporal fossae, it is recommended to use an elongated incision of the lateral rhynotomy. Same approach, but without continuation along the superciliary arch was used to remove juvenile extensive rhinopharynx angiofibromas, benign tumors and tumor-like neoplasms characterized by destructive growth.

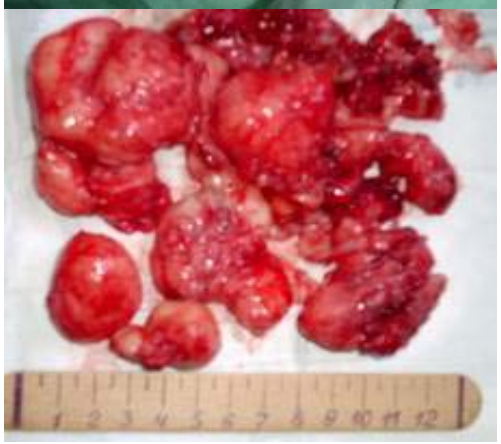

Steps of removing tumor with eye socket exenteration via lateral rhynotomy approach.

Steps of removing tumor with eye socket exenteration via lateral rhynotomy approach.

If maxillary tumor significantly extends into the whole paramaxillary area or in case of surgical manipulations on the base of the skull, and sometimes for saving the eye socket, it is better to use a combination of the Lauers-Balon and lateral rhynotomy approaches. This modified approach allows access to the base of the skull and sometimes saving the eye socket in cases when manipulation had to be performed laterally and from the inside of this anatomic tissue.





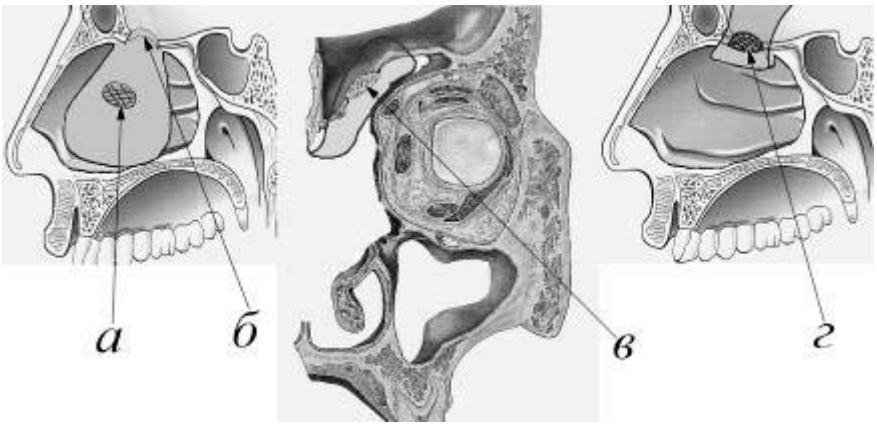

Steps of tumor removal via combined Lauers-Balon and lateral rhynotomy approach.

When tumor infiltration extended through facial skin, all presented approaches had to be modified. This was due to the need to dissect the facial skin and include it into the tissue block to be removed, which increased negative effects from surgery and required additional cosmetic interventions using skin and soft-tissue grafts on vascular flap.

Steps of surgical closure of facial defects using skin/muscular grafts on vascular flap.

In local cancer, when tumor infiltration extended into distal parts of paramaxillary anatomic tissues, it is impossible to remove it together with the tissue block to be removed. For this reasons, as the last step, the remaining tumor was subjected to several consecutive diathermocoagulations and then was removed using hemorrhoid forceps and bone forceps until healthy bone and soft tissues became visible.

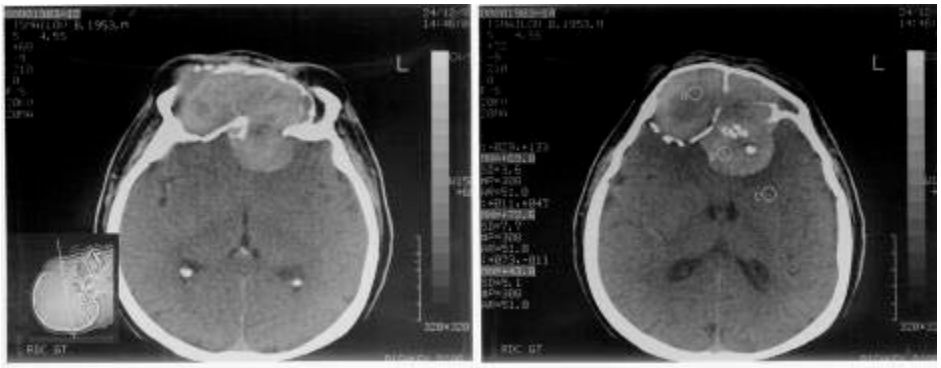
Complications were unavoidable in some cases of surgical interventions in local cancer and cerebral hernia. Complications included defects of the base of the skull with liquorrhea, defects of soft palate, and potentially lethal significant increase of the intracranial pressure. Such complications required non-conventional solutions.



Closure of the base of the skull defect and stopping liquorrhea from the anterior cranial fossa using an opposite perichondrial/periosteal graft of the nasal septum turned onto the defect.

Stages of palate reconstruction using folded free skin graft on vascular flap taken from forearm.

Skin flap was placed instead of the removed hard palate (7th day and 2.5 years after the operation).



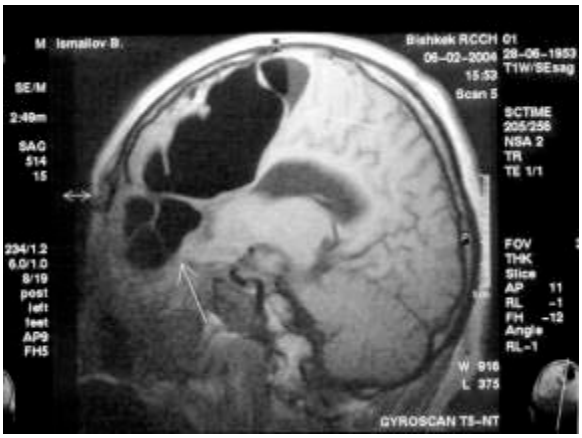
Gigantic bilateral fibroma of ethmoidal labyrinth, eye socket and frontal sinuses, extending into anterior cranial fossa on both sides.

Postoperative agonizing condition due to high intracranial pressure, meningoencephalitis, partial necrosis of the anterior part of the frontal lobe and gas bubble.

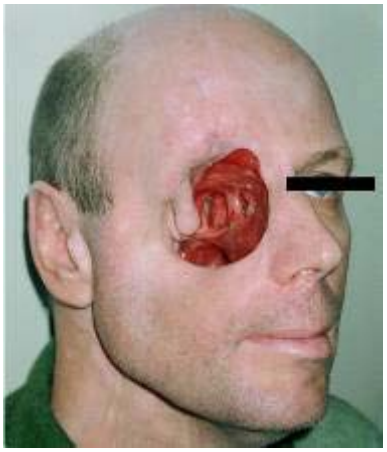
Measures undertaken:

Removing skin sutures leading to cerebral prolapse; Gas bubble puncture and suction resulting in cerebral pulsation and alleviation of the condition;

After the gas bubble is removed, compressed parts of the brain get smoothed out, and memory and speech gradually recover



Appearance of a patient shortly after the treatment is completed. Even though open granulating brain tissue still can be seen, the patient already has a sensible look



View of patients after maxilla removal with orbit exenteration, 27 and 8year follow-up.

MANAGEMENT OF CHOLESTEATOMA

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As far as management is concerned, the aetiology of cholesteatoma, be it primary, secondary or traumatic is of secondary importance. Removal of squamous epithelium from the middle ear is the only successful treatment. Conservative measures, such as topical medication or suction clearance, are of purely temporary benefit. There is a considerable difference between the treatment of attico-antral and tubo-tympanic disease. A discharging ear in tubo-tympanic disease can usually be controlled by local toilet and topical or systemic medication. Occasionally, even spontaneous closure of a perforation occurs. The spontaneous disappearance of a cholesteatoma is never seen.

The management of a cholesteatoma is surgical. The primary aim of surgery is the removal of the cholesteatoma matrix (keratinising squamous epithelium) from the middle ear cleft. The secondary aim should be preservation or improvement of the hearing. As advocated by Plester patients with cholesteatoma are treated by one of three methods: (1) posterior tympanotomy (combined approach tympanoplasty); (2) atticotomy with reconstruction of the lateral attic wall; (3) attico-antrstomy or modified radical mastoidectomy.

Posterior Tympanotomy

It is an exciting idea to eliminate the cholesteatoma by the combination of an anterior and posterior approach and to achieve not only removal of the pathological process but also preservation 0f a large middle ear volume and the physiological self-cleaning capacity of the external ear. An important prerequisite for this procedure is an average or well-pneumatized mastoid. The advantage of this technique is the preservation of the posterior canal wall. When the extent of cholesteatoma is determined, either from pre-operative X-rays or clinically by passing a probe into the retraction pocket, the type of operation can be decided. The details of the operation are not discussed here.

Good pneumatisation is essential. Cholesteatoma often gets deeplyembedded in the mastoid air cells. After removal of the matrix and perimatrix, the neighbouring bone area must b carefully drilled in order to be certain that the squamous epithelial remnants are completely removed.

The advantage of this procedure is that the bony external auditory canal remains anatomically unaltered, but there are definite disadvantages, Firstly, the site of origin of the cholesteatoma and its spread into the sinus tympani cannot be visualised under the operating microscope through this approach. Some parts of the stapes and some areas of the hypotympanum cannot be examined. Regular “second look“ operations after two years are a must because the recurrence rate is high, especially in cholesteatomas with branching epithelial proliferation. To motivate patients to allow a “second look” it may be worthwhile postponing the ossicular reconstruction until the second operation. In other words, second stage operations have two purposes – to check for recurrence and to reconstruct the ossicular chain.

Atticotomy with reconstruction of the lateral attic wall

In case with a small, sclerosed mastoid, atticotomy is the approach of choice. Removal of the lateral attic wall is easy and the mastoid can be opened if required. If a Schuller´s view shows sclerosis of the mastoid, an endaural approach can be used; it is unnecessary to remove

a large area of cortical bone to gain access to an small chlesteatoma. It has been shown that it is better to remove the meatotympanal flap completely and replace it at the of the procedure than to simply reflect it forward with the consequent risk of traumatising it with a drill and sucker. In this procedure, it is not necessary to remove the cholesteatoma matrix completely; it can be reflected forward while the attic wall is gradually removed (inside-out technique). The bony defect is then closed with a piece of tragal cartilage and perichondrium. The fringe of intact perichondrium helps to keep the cartilage in place. Follow-up of many patients has shown that the matrix in its new position acts like normal skin (Plester).

The technique has similar disadvantages to posterior tympanotomy, i.e. if some sqamous epithelium is left behind, it may proliferate and form a cholesteatoma. Another disadavantage is the formation of traction pockets around the implanted cartilage which may lead to cholesteatoma.

Attico – Antrostomy

Otologists throughout the world unanimously agree that a wide opening between the mastoid cavity and the external auditory canal is the best way to eradicate cholesteatoma. In contrast to the pre-antibiotic era, the classical radical operation is rarely performed, having been largely replaced by a conservative attico-antrostomy preserving the tympanic membrane and the ossicles. When should one prefer the open technique and when the closed? The open technique should be used when there is extensive erosion of the attic wall, when there is a labyrinthine fistula or when there is tubal dysfunction. The open technique may also be preferable if there are likely to be difficulties with regular follow-up because the patient comes from a far off place, or elderly patients from developing countries.

Attico-antrostomy demands a precise technique and certain points must be observed to avoid complications.

The opening into the canal must be wide enough to allow good aeration and proper drainage. If the entrance to the cavity is narrow, squamous debris will be a constant source of inflammation with infection of the dead cell mass by bacteria and fungi.

All air cells should be smoothed, including the niches and cornersin the sino-dural angel, otherwise they may remain a constant source of otorrhoea.

All the bony walls, overhangs and projections must be smoothed with a diamant burr, The facial ridge must be lowered as far as the Fallopian canal. Smooth bony walls help rapid reepithelisation and prevent the formation of cell debris and granulations. The aim of this technique is to make a small self-cleaning cavity.

Follow-Up

Long-term follow up by Heumann in children and by Jahnke et al. in adults has shown a 30% recurrence rate of cholesteatoma operations after posterior tympanotomy. These figures demonstrate the necessity of a “second look”. It is important to note, however, that more than half of the patients refused a second operation. The high recurrence rate and the low patient compliance make it necessary for the otologist to avoid a posterior tympanotomy without a good doctor-patient relationship. All the facts about the surgery must be explained to the patient and the necessity of two operations must be pointed out. Prior to making a decision about a closed or pen technique, consideration must be given to anatomical factors, i.e. pneumatisation of the mastoid, and socio-economic factors, such as the personality and the dependability of the patient.

In case of large cholesteatomas where a cavity is made, the cholesteatoma matrix should be left behind. If the cavity is very large, a split skin graft may be used to line the cavity.

Choice of surgical approach and conclusions

If the patient is young, the mastoid is pneumatised, and if the patient after thorough discussion of the possible approaches , understands the necessity of a second-look operation two years later, a closed technique may be used. In addition, the otologist´s personal statistics are obviously much more important than those from other centres. Degiune and Desaulte in their series found cholesteatoma pearls in 54 % of patients.

The fact that cholesteatoma recurs in one third of the patients and that more than half of the patients, despite thorough precounselling, refuse a second operation has gradually changed the approach in Tübingens ENT – University Hospital in the last 10 years. Clearly,the open technique is preferable. Post-operative evaluation of this procedure certainly shows better results. The recurrence rate dropped to 13%, clearly lower than following a closed procedure. Even so, the rate of 13,3 % is so high that post-operative follow-up is necessary in every case.

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ВЕГЕТАТИВНЫЙ ДИСБАЛАНС И СОСТОЯНИЕ СЛУХОВОЙ ТРУБЫ.

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В клинической практике нередко приходится сталкиваться со случаями упорного течения хронических тубарных дисфункций, когда длительный анамнез заболевания, разнообразие клинических проявлений, порой противоречивые результаты исследований, отсутствие эффекта от проводимой терапии, наличие у больного измененного психосоматического статуса не позволяют установить форму патологии слуховой трубы и выработать адекватную тактику лечения. В таких ситуациях, при отсутствии механических препятствий, нарушающих проходимость слуховой трубы, необходимо исключать нейромоторные и вегетососудистые трубные расстройства на фоне дисбаланса вегетативной нервной системы.

Проблема вегетативного дисбаланса в организме человека.

Вегетативная нервная система (ВНС) – часть нервной системы, контролирующая и регулирующая висцеральные функции, обеспечивающая постоянство внутренней среды организма – его гомеостаз. Хотя термин «автономная нервная система» является международным и заменил все ранее существовавшие (висцеральная, вегетативная, непроизвольная, растительная), в отечественной литературе, в том числе и научной, продолжает широко употребляться и название «вегетативная нервная система», поэтому мы будем использовать оба термина. ВНС подразделяется на сегментарную и надсегментарную и имеет все известные типы интерорецепторов: механо-, хемо-, термо-, осмо- и ноцицепторов, являющихся специфическими. Надсегментарные вегетативные центры сосредоточены в коре полушарий головного мозга, в подкорковых структурах, мозжечке и стволе мозга.

Сегментарная система делится на симпатическую и парасимпатическую. Первая отвечает за быстрые реакции в ответ на раздражение извне и проявляется в мобилизации органов и систем. Она воздействует на процессы терморегуляции, свертывания крови, иммунитета, формирования психо-эмоциональной готовности организма к стрессу. Парасимпатический отдел ВНС обеспечивает протекание постоянных процессов в организме, направленных на поддержание гомеостаза. В целом тонус автономной нервной системы рассматривают как одно из проявлений гомеостатического состояния и одновременно как один из механизмов его стабилизации [20]. В симпатических нервных узлах нейромедиатором преганглионарных волокон является ацетилхолин, а постганглионарных – норадреналин (за редкими исключениями); в парасимпатических узлах нейромедиатором и пре-, и постганглионарных волокон является ацетилхолин [5]. В связи с этим в литературе можно встретить термины «холинэргическая система» вместо парасимпатической и «адренэргическая» – вместо симпатической. В здоровом организме обе системы находятся в относительном равновесии – эйтонии. Преобладание тонических влияний симпатической и парасимпатической частей ВНС явилось основанием для создания конституционной классификации, в соответствии с которой преобладание тонуса парасимпатической части ВНС именуется ваготонией, а симпатической – симпатикотонией. Чистые формы ваготонии или симпатикотонии встречаются исключительно редко, чаще наблюдается функциональное преобладание той или иной системы. Ответственность за скоординированность действий систем несет надсегментарный отдел. В ряде случаев вегетативный дисбаланс является

причиной возникновения заболеваний, в других он развивается вторично на фоне психической, неврологической и соматической патологии.

Вегетативные дисбалансы (вегетозы) отдельных органов и систем – большая группа заболеваний, основным звеном патогенеза которых является расстройство регуляции взаимовлияний центральной и вегетативной нервных систем [26, 21]. Они давно являются предметом изучения [23]. Эти поражения, возникающие в результате генерализованных нарушений регуляторной деятельности ВНС, характеризуются расстройством адаптации организма с системными или локальными проявлениями. Известно, что вегетативная дисфункция может протекать по типу «акцентированного антагонизма», что может проявляться неоднородными системными эффектами организма в целом и в отдельно взятом органе. Следствием является развитие таких заболеваний, как вегето-сосудистая дистония, респираторный вегетоз (в том числе, риногенная астма), вегетоз внепеченочных желчных путей (дискинезия желчевыводящих путей), гастроинтестинальный вегетоз (функциональные расстройства желудка, хронический гастрит, язвенная болезнь двенадцатиперстной кишки) [18]. В оториноларингологической практике такие формы вегетозов рассматриваются в рамках вазомоторной риносинусопатиии, дисфонии, аденопатии, болезни Меньера. Имеются указания на клиническое значение вегетативного дисбаланса и его роль в развитии заболеваний ЛОР органов у детей [1]. Ранняя диагностика этих пограничных состояний позволяет разработать эффективные лечебно-профилактические мероприятия по их коррекции и улучшению качества жизни пациентов [9, 46]. Выявление и оценка характера вегетативных нарушений помогает решать вопросы профессиональной пригодности в спортивной, космической, военной сферах. Изучение состояния вегетативного статуса у больных и здоровых людей дает возможность вывести критерии для выяснения степени заинтересованности ВНС в той или иной патологии и при необходимости корригировать и контролировать схему терапии. По мнению многих авторов, изменение состояния различных отделов ВНС предшествует развитию органной патологии, а ранняя диагностика и коррекция вегетативного дисбаланса, возможно, позволит предотвратить возникновение или замедлить прогрессирование органной патологии, выработать критерии прогноза осложнений и исхода заболевания [10, 37]. Эта концепция уже нашла свое практическое отражение в различных областях клинической медицины. В частности, оценка состояния ВНС широко применяется в кардиологии при прогнозировании риска внезапной смерти, течения острого коронарного синдрома и инфаркта миокарда, различных аритмий, гипертонической болезни, нейроциркуляторной дистонии [19, 28, 34]. Диагностика вегетативной дисфункции позволила с новых позиций осуществлять индивидуальный подбор, оценку эффективности лекарственной терапии и прогноз течения заболевания и осложнений у больных бронхиальной астмой и синдромом обструктивного апноэ [7, 17]. Определение уровня функционирования автономной нервной системы и его дисбаланса в настоящее время используется, как критерий контроля течения анестезии и оценки эффективности проводимых лечебных мероприятий у больных, находящихся в критическом состоянии. В неврологии и эндокринологии функциональная оценка ВНС является стандартным методом диагностики диабетической ангионейропатии. В ринологии по состоянию автономного дисбаланса прогнозируют возникновение обострения течения вазомоторного и аллергического ринита [1]. Кроме того, необходимо отметить, что исследование состояния уровня функционирования ВНС широко применяется в педиатрии, геронтологии, в экстремальной и военной медицине для подбора лекарственной терапии и оценки прогноза. Помимо коррекции проводимой пациенту консервативной терапии, необходимо учитывать состояние вегетативного статуса и при решении вопроса об оперативном вмешательстве. Например, тонзилэктомии при хроническом

тонзиллите, протекающем на фоне нейроциркуляторной дистонии, в 30% случаев являются необоснованными [3, 29]. По мнению авторов, на эффективность этой операции особенно отрицательно влияет выявление у пациентов антигенов HLA и Cw2 и «медленного» типа ацетилирования. Повышенные значения этих показателей являются маркерами наличия вегетативной дисфункции. В таких случаях рекомендуется воздерживаться от операции.

Таким образом, дисбаланс ВНС в организме может иметь различные точки приложения, проявляясь дисфункцией органов и систем. Такой зоной, несомненно, является слуховая труба, имеющая сложную анатомическую архитектуру с выраженными нейрорефлекторными связями (в том числе, вегетативными) и снабженную всеми известными типами фармакологических рецепторов. К сожалению, эти взаимосвязи, в том числе влияние вегетативного дисбаланса на функциональное состояние слуховой трубы до настоящего времени не были изучены.

Иннервация слуховой трубы и патогенез тубарных дисфункций.

Основы исследования иннервации слуховой трубы были заложены еще в XVIII веке, однако до настоящего времени этот вопрос изучен недостаточно, что связано с богатством и сложностью целого ряда нервных сплетений вокруг трубы [14].

Установлено, что слуховая труба получает двигательную (для паратубарных мышц), чувствительную и вегетативную иннервацию. Двигательная иннервация осуществляется тройничным нервом, а также двигательными веточками от лицевого, языкоглоточного и блуждающего нервов и, возможно, передними ветвями четырех верхних шейных спинномозговых нервов. В чувствительной иннервации слуховой трубы принимают участие тройничный, лицевой (промежуточный), языкоглоточный и блуждающий нервы. Многочисленные сосуды и железы, расположенные в слизистой оболочке слуховой трубы, имеют двойную вегетативную иннервацию, то есть получают постганглионарные волокна от клеток, расположенных как в симпатических, так и в парасимпатических узлах. И любой дисбаланс в соотношении симпатической и парасимпатической иннервации может привести к дисфункции трубы [15].

Центральный отдел симпатической части ВНС состоит из многочисленных мультиполярных клеток, располагающихся в латеральном промежуточном (сером) веществе спинного мозга на протяжении от восьмого шейного до второго-третьего поясничных сегментов и образующих в совокупности симпатический центр. Периферический же отдел состоит из правого и левого симпатических стволов и нервов, отходящих от этих стволов, а также из образуемых нервами и узлами сплетений. Для нас представляет интерес шейный отдел симпатического ствола, насчитывающий обычно три шейных узла. Из них только верхний принимает участие в иннервации слуховой трубы. Три из пяти ветвей, отходящих от верхнего шейного узла, так или иначе участвуют в иннервации слуховой трубы [27, 25, 49]: 1) внутренний сонный нерв, образующий внутреннее сонное сплетение, дающее ветви к слуховой трубе (сонно-барабанные нервы и глубокий каменистый нерв), 2) наружные сонные нервы, 3) гортанно-глоточные нервы, участвующие вместе с глоточными ветвями языкоглоточного и блуждающего нервов в образовании глоточного сплетения, иннервирующего слуховую трубу. Таким образом, шейный отдел симпатического ствола имеет связь с черепными нервами, которые содержат в составе своих пучков и нервных стволов симпатические волокна, чем подчеркивается единство этих систем.

Исследование симпатической иннервации слуховой трубы морских свинок с использованием флуоресцентного метода показало, что хрящевая часть слуховой трубы иннервирована гораздо богаче, чем костная [32].

В экспериментах на собаках было продемонстрировано, что при стимуляции шейного симпатического нерва наблюдается отчетливое расширение просвета

слуховой трубы за счет сокращения сосудов слизистой оболочки [40]. Клинические исследования подтвердили эти результаты: при стимуляции шейных симпатических узлов отмечено улучшение функции слуховой трубы [14]. В то же время, экспериментальное применение фармакологических средств, действующих на периферические адренэргические процессы, в частности, симпатолитиков (угнетающих передачу возбуждения с адренэргических нейронов) также вело в ряде случаев к улучшению вентиляционной функции слуховой трубы [38]. Оценка воздействия нескольких вазоактивных веществ позволила предположить, что в передаче симпатических нервных импульсов к слуховой трубе участвуют α-адренорецепторы, и не участвуют β-адренорецепторы [40].

В парасимпатической части ВНС, как и в симпатической, различают центральный (мозговой) и периферический (внемозговой) отделы. Центральный отдел представляет собой скопление клеток, залегающих в различных участках головного и спинного мозга (соответственно, краниальный и сакральный отделы). Периферический же отдел состоит из волокон, проходящих в составе ряда черепных и спинномозговых нервов к периферическим узлам (преганглионарные волокна); периферических концевых узлов, располагающихся вблизи органов (экстрамуральные узлы) или в стенках органов (интрамуральные узлы); отростков клеток терминальных узлов, направляющихся к исполнительным органам (постганглионарные волокна). Интрамуральные узлы и связанные с ними проводящие пути, ввиду их высокой автономии, сложной организации и особенностей медиаторного обмена, некоторые авторы выделяют в самостоятельный метасимпатический отдел ВНС [6].

Парасимпатическая иннервация слуховой трубы осуществляется за счет волокон, идущих в составе VII, IX и X пар черепных нервов, ядра которых располагаются в стволе головного мозга. 1) Лицевой (VII) нерв - двигательный, но вместе с ним следует промежуточный нерв, содержащий чувствительные и парасимпатические волокна, которые начинаются от клеток верхнего слюноотделительного ядра. Преганглионарные волокна промежуточно-лицевого нерва следуют в двух направлениях. Одни образуют большой каменистый нерв, который после присоединения глубокого каменистого нерва получает название нерва крыловидного канала (видиева нерва) и вступает в крылонебный узел; часть постганглионарных волокон в составе ветви, называемой некоторыми авторами глоточным нервом Бока, иннервирует слизистую оболочку полости носа, околоносовых пазух, твердого и мягкого неба, носоглотки, а также слуховой трубы, что обеспечивает взаимосвязь всех этих органов. Вторая порция парасимпатических волокон от промежуточно-лицевого нерва идет в одном пучке с чувствительными (вкусовыми) волокнами в составе барабанной струны, а затем – ветвей язычного нерва и подходит к поднижнечелюстному и подъязычному узлам, постганглионарные волокна которых обеспечивают секреторную иннервацию подчелюстной и подъязычной слюнных желез и слизистых желез языка [13]. 2) Парасимпатические волокна языкоглоточного (IX) нерва от нижнего слюноотделительного ядра в составе барабанного, а затем малого каменистого нерва, следуют к барабанному сплетению, достигают ушного узла, где они переключаются на постганглионарные волокна, входят в ствол ушно-височного нерва и достигают околоушной слюнной железы, обеспечивая ее секреторной иннервацией. Следует отметить, что часть преганглионарных парасимпатических волокн IX нерва переключается еще в нижнем узле языкоглоточного нерва, где наряду с чувствительными есть и парасимпатические нейроны. Их аксоны подходят к барабанному сплетению, обеспечивая секреторную иннервацию слизистой оболочки барабанной полости и слуховой трубы. При раздражении глоточного устья слуховой трубы нередко возникает кашлевой рефлекс, что объясняется наличием в этой зоне рецепторов языкоглоточного и блуждающего нервов [30]. 3) Парасимпатические

волокна блуждающего (X) нерва начинаются от клеток заднего ядра. Переключение преганглионарных волокон происходит в многочисленных мелких парасимпатических узлах, расположенных как на протяжении ствола блуждающего нерва, так и в экстра- и интрамуральных узлах и сплетениях иннервируемых им органов. Слуховая труба получает секреторную иннервацию от блуждающего нерва через глоточное сплетение.

С целью изучения влияния парасимпатической иннервации на слуховую трубу многие авторы использовали различные воздействия на видиев нерв. Парасимпатические волокна данного нерва после переключения в крылонебном узле достигают слизистой оболочки слуховой трубы в составе глоточного нерва Бока. Стимуляция видиева нерва ведет к уменьшению просвета трубы, а его перерезка, напротив, улучшает проходимость слуховой трубы [41, 44, 48]. Однако сложно сказать, является ли это улучшение тубарной функции после перерезки видиева нерва следствием уменьшения парасимпатического влияния на трубу или просто следствием улучшения носового дыхания. В связи с этим рядом авторов производилась избирательная нейрэктомия глоточного нерва Бока, которая приводила к аналогичному эффекту [45, 42].

Вместе с тем, при использовании атропина (препарата, блокирующего М-холинорецепторы и, следовательно, уменьшающего парасимпатическое влияние) было обнаружено существенное ухудшение как активной, так и пассивной функции слуховой трубы [35].

Ряд авторов считает, что большое значение для функции слуховой трубы имеет системное кровяное давление и центральное венозное давление: просвет трубы уменьшается с повышением давления [40].

М.Б.Крук (1986) [14], анализируя данные литературы, а также опираясь на результаты собственных экспериментальных и клинических исследований, показал, что кровеносные сосуды и железы в слизистой оболочке слуховой трубы иннервируются как симпатическими, так и парасимпатическими волокнами. При этом парасимпатическая иннервация способствует расширению кровеносных сосудов и усилению секреции желез слуховой трубы; то есть, при преобладании парасимпатической иннервации развивается отек паратубарных тканей и сужение просвета слуховой трубы, что ведет к нарушению ее эквипрессорной и дренажной функций. Симпатическая же иннервация, напротив, оказывает сосудосуживающее действие, и ее преобладание ведет к увеличению просвета слуховой трубы и улучшению ее функций. По мнению H. Amano (1984) [33], вентиляционная функция слуховой трубы в значительной степени зависит от состояния двигательной и вегетативной иннервации, а также иннервации слюнных желез. Эти механизмы регулируют просвет трубы, влияют на тонус сосудов ее слизистой оболочки, секрецию желез.

Вегетативные волокна образуют в тубарных стенках интрамуральные нервные сплетения и обеспечивают баланс трофотропных и энерготропных влияний на сосуды, железы, определяя нормальное функционирование слуховой трубы. Важно отметить общность иннервации слизистой оболочки слуховой трубы и носовой полости, придаточных пазух носа и носоглотки. Они вместе относятся к пограничной зоне между внутренней средой организма и окружающей средой. В ней повышена плотность рецепторов, представленная всеми известными типами чувствительных элементов. Основная их функция – быстрые реакции организма в ответ на резкие изменения условий с целью сохранения гомеостаза. При чрезмерном и длительном раздражении могут формироваться парадоксальные реакции, проявляющиеся, в частности, нарушениями симпато-парасимпатического баланса в слизистой этих зон в виде вазомоторных явлений. Некоторые авторы вводили термин «вазомоторной эпифарингопатии» [24]. Установлен факт существования рефлекторных механизмов,

связывающих «вазомоторную эпифарингопатию» с дисфункциями сердечно-сосудистой, дыхательной и пищеварительной систем. В связи с этим также необходимо упомянуть доказанный факт прямого влияния работы дыхательного центра на аэрацию барабанной полости у приматов [36]. Хотя зависимость между выраженностью нарушения проходимости полости носа и степенью дисфункции слуховой трубы изучались многими авторами, но до сих пор многие аспекты этих взаимоотношений остаются не выясненными.

Целый ряд патологических состояний слуховой трубы невозможно выявить, выполнив весь известный диагностический комплекс, поскольку их не объяснить с чисто механистических позиций. Возникновению трубной патологии всегда предшествуют или параллельно с ней нарастают функциональные нарушения [24]. Они, как правило, являются следствием автономного (вегетативного) дисбаланса. Постоянное воздействие на слизистую оболочку факторов неинфекционной природы приводит к запуску нейрогенного воспаления, ведущего, в свою очередь, к гиперчувствительности слизистой оболочки. В настоящее время считается, что именно нейрогенные нарушения приводят к развитию нейровегетативной формы вазомоторной ринотубоотопатии [4].

Возможности оценки вегетативного статуса при тубарных дисфункциях.

В литературе неоднократно подчеркивалась актуальность оценки вегетативного статуса при различных заболеваниях ЛОР органов. Учитывая исключительную важность вегетативной дисфункции в патогенезе болезней уха, горла и носа, ее изучение предлагалось ввести в стандарт обследования больного [31]. Для диагностики состояния ВНС предлагалось использовать различные методики: индекс Кердо, активная ортопроба, ортостатическая проба, клиностатическая проба, анализ вариабельности сердечного ритма по Р.М. Баевскому, расчетный индекс адаптационного потенциала сердечно-сосудистой системы [2].

Для изучения исходного вегетативного статуса изначально использовались специальные опросники, таблицы, отражающие объективные вегетативные показатели, а также сочетание опросников и таблиц, включающих регистрацию данных анамнеза жизни, наличие субъективных и объективных симптомов со стороны практически всех систем организма.

Оценка индекса Кердо определяет степень влияния ВНС на сердечно-сосудистую систему. Вегетативная реактивность организма, то есть вегетативные реакции, возникающие в ответ на внешние и внутренние раздражители, оценивается проведением фармакологических проб, физическими нагрузками. В качестве фармацевтических препаратов используют адреналин и инсулин, что не всегда оправдано у соматически отягощенных больных и пожилых пациентов. Из физических нагрузок применяют холодовую пробу - охлаждение кисти в холодной воде; давление на рефлексогенные зоны: глазосердечный рефлекс Даньини-Ашнера, синокаротидный рефлекс Чермака, эпигастральный рефлекс Тома. Суть исследований заключается в подсчете времени, необходимом организму для возврата в исходное положение по отклонению пульса или диастолического давления после кратковременного воздействия на рефлексогенные зоны.

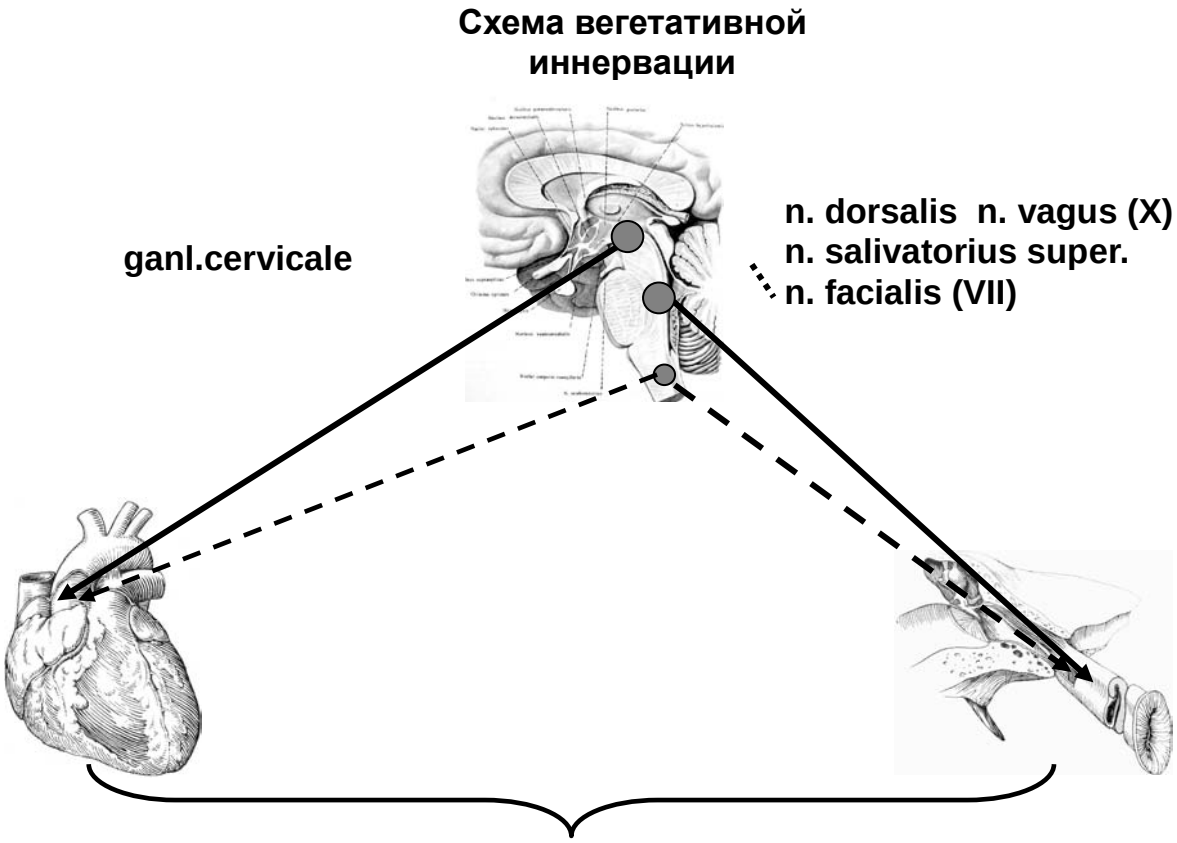
Чтобы сделать вывод об адаптивных возможностях организма к более длительным воздействиям, проводят следующие методы оценки вегетативного обеспечения: физический (велоэргометрия, дозированная ходьба, подъем ног лежа в горизонтальном положении, двуступенчатая проба Мастера, дозированные приседания, сжимание динамометра и прочее); проб положения (переход из горизонтального положения в вертикальное и наоборот); умственный (счет в уме, составление слов); эмоциональный (моделирование отрицательных эмоций). Для регистрации реакции используют различные параметры сердечно-сосудистой системы: частота сердечных

сокращений (ЧСС), величина артериального давления, показатели реоэнцефалографии, плетизмографии; показатели дыхательной системы; гормональный профиль; кожно-гальванический рефлекс. Большинство исследователей остановилось на регистрации ЧСС в ходе записи электрокардиограммы во втором отведении или с максимально выраженным зубцом R.

Предлагаемые методики исследования статуса ВНС или имели описательные характеристики и не могли быть стандартизированы, или требовали применения специального труднодоступного в общеклинической практике технического обеспечения. Проводимые ранее исследования по методике Р.М. Баевского имели некоторые неточности [12]. Это касалось того обстоятельства, что выбор величины разброса – ΔRR в качестве характеристики активности парасимпатического канала регуляции был неудачным, поскольку на величину разброса влияли не только периодические составляющие ритма, но и случайные колебания длительности интервалов R-R, что приводило к снижению воспроизводимости результатов исследования [10]. Данная методика имела высокую информативность при оценке срочных адаптационных реакций организма в ответ на стрессовые воздействия в космической, спортивной и клинической медицине. Поэтому в рекомендациях Европейского кардиологического общества и Североамериканского общества стимуляции и электрофизиологии в 1996 г. для характеристики разброса R-R предложено использовать величину стандартного отклонения. Это нашло отражение в стандартах для проведения процедуры 5- минутной записи сердечного ритма и алгоритма его обработки. Такая методика исследования вариабельности ритма сердца, точно отражающая текущие параметры вегетативного статуса и вегетативного обеспечения деятельности организма, принята в настоящее время в России.

Известно, что сердце иннервируется ветвями сердечных сплетений от узлов шейного, грудного отделов симпатического ствола и сердечными ветвями блуждающего (X) нерва, дорзальное ядро которого расположено в области ромбовидной ямки. Доказано, что у эмбриона человека длиной 9 мм существуют внутримозговые связи между VII , IX и X парами нервов [16, 47]. В области продолговатого мозга имеется бульбарная группа парасимпатических ядер, некогда составлявших единое целое, в процессе онтогенеза диссоциировавших в пределах ствола мозга, сохранив функциональные связи [8]. Так, верхнее слюноотделительное ядро лицевого нерва обеспечивает парасимпатическую иннервацию полости носа и слуховой трубы, а дорзальное ядро блуждающего нерва – парасимпатическую иннервацию сердца. Источником симпатических волокон как для полости носа и слуховой трубы, так и для сердца служат верхние шейные и грудные симпатические ганглии [43]. Таким образом, у слуховой трубы и сердца имеется общность вегетативной иннервации (рис. 1). Поскольку исследование вариабельности ритма сердца позволяет получать количественную оценку существующего вегетативного статуса, а общность нейро-рефлекторных механизмов очевидна, нам представляется целесообразным применение этой методики для изучения и объективизации состояния ВНС при дисфункциях слуховой трубы.

Как указывалось выше, слизистые оболочки полости носа, носоглотки и слуховой трубы рассматривают как единую структурно-функциональную зону, в которой доказано наличие ринобронхиальных и ринокардиальных взаимоотношений. Последние реализуются посредством ринокардиального рефлекса и могут быть объективизированы методами изучения вариабельности ритма сердца с определением вегетативного баланса организма [11]. При нарушении этого баланса начинают формироваться патологические реакции на функциональном уровне, а затем и на структурном. Вариабельность сердечного ритма служит тонким и точным индикатором этих изменений.



Общность вегетативной иннервации

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ПРИМЕНЕНИЕ АЛЛОКИНА-АЛЬФА И АЛЛОМЕДИНА В ТЕРАПИИ РЕЦИДИВИРУЮЩЕГО РЕСПИРАТОРНОГО ПАПИЛЛОМАТОЗА

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Рецидивирующий респираторный папилломатоз (РРП) занимает значительное место среди сложных и неразрешенных проблем современной медицины. Поражая гортань, растущая опухоль приводит органа, что имеет жизненно важное значение. Трудности и неудачи в лечении РРП, тяжесть заболевания, приводящего к инвалидизации больных, нарушению голосообразовательной и дыхательной функций гортани и трахеи, заставляют ларингологов искать новые пути решения данной проблемы.

Этиологию заболевания связывают с вирусом папилломы человека (ВПЧ), относящимся к семейству паповавирусов, к группе ДНК-содержащих вирусов с двухцепочечной ДНК. ВПЧ обладает эпителиотропностью и обнаруживается в коже, а также в слизистой оболочке конъюнктивы, рта, глотки, пищевода, бронхов, прямой кишки, половых органов.

О репликации ВПЧ и об индуцируемой им трансформации клеток известно очень мало. В литературе имеются сведения о том, что внедрение ВПЧ происходит на уровне незрелых клеток эпителия слизистых оболочек (базальный слой), трансформированные базальные клетки эпителия начинают делиться, в результате чего образуется папиллома. В этих пролиферирующих клетках вирусные частицы либо не образуются, либо находятся в небольшом количестве. Полная репликация ВПЧ происходит только в высокоспециализированных клетках многослойного плоского эпителия (поверхностных эпителиоцитах слизистой оболочки).

Современная лечебная стратегия предусматривает щадящее эндоскопическое удаление папиллом. Сочетание тщательного удаления папиллом и бережное отношение к окружающим тканям являются важными факторами, влияющими на срок ремиссии и профилактику осложнений. Рецидивирующий характер заболевания приводит к необходимости повторных хирургических вмешательств, нередко приводящих к повреждению субэпителиальных тканей и развитию рубцового процесса в гортани, что влечет за собой нарушение дыхательной и голосовой функции.

Невозможно перечислить весь арсенал лекарственных веществ, используемый ларингологами для предотвращения рецидивов заболевания и увеличения сроков ремиссии. Основными направлениями в противорецидивной терапии респираторного папилломатоза являются применение иммуномодулирующей и противовирусной терапии. В настоящее время широко используются дибазол, циметидин, тимоген, Т–активин, тималин, лейкомакс, гранулоцитарно-макрофагальный колониестимулирующий фактор, интерфероны (ИНФ) и их производные, индукторы синтеза эндогенных интерферонов.

Кроме того, перспективным является использование индукторов синтеза эндогенного ИФН, которые обладают ценным сочетанием полифункциональных качеств. Большинство разрешенных к настоящему времени для медицинского использования препаратов данной группы хорошо сочетаются с интерферонами разных типов. Важно особо подчеркнуть, что комбинированное использование индукторов с препаратами интерферонов часто приводит к синергидному или аддитивному эффекту и позволяет избежать синдрома отмены интерферонов. Известен способ применения в качестве противорецидивной терапии респираторного папилломатоза препаратов данной группы: амиксина и циклоферона (Г.Ф. Иванченко, Ф.С. Каримова 2000).

Поиск новых противовирусных препаратов позволил выявить группу соединений, которые вызывают не только элиминацию вирусов, но и уменьшают вероятность развития их резистентных штаммов. Ациклические фосфонаты нуклеозидов составляют одну из таких групп. Показано, что цидофовир, адефовир, тенофовир, адефовир, дипивоксил, тенофовир дисопроксил фумарат, которые являются аналогами дезоксинуклеотидмонофосфатов, характеризуются широким спектром противовирусного действия. В литературе встречаются единичные сведения об эффективности применения инъекций цидофовора в ткань папилломы или зону пораженной слизистой оболочки непосредственно после удаления папиллом. Кроме того, известно о применении при рецидивирующем папилломатозе другого аналога нуклеотидов – ацикловира однако, на современном этапе, эффективность данного препарата доказана экспериментально и клинически только при герпесвирусной инфекции.

Учитывая ограниченную локализацию ВПЧ в слизистой оболочке гортани представляется оправданным поведение локальной противорецидивной терапии в виде аппликаций на слизистую оболочку, ингаляций, инъекций в слизистую оболочку непосредственно после удаления папиллом (Плужников М.С.,2004). Ранее нами было показано, что местное введение иммуномодуляторов в ряде случаев значительно эффективнее системного, так как позволяет добиться активации органоспецифических субпопуляций эффекторных клеток иммунной системы с минимальным расходом препарата и риском развития побочных эффектов (Галкина О.В., Катинас Е.Б. 2001).

Нами было проведено пилотное исследование возможности применения антивирусного препарата аллокин-альфа в терапии РРП. Аллокин-альфа – противовирусный препарат, разработан НИИ ОЧБ г. С-Петербурга (Рег. № 002829/01 от 22.09.03). Препарат рекомендован для лечения герпетической инфекции, а также гепатита В. Эффект Аллокина заключается в мобилизации противовирусного иммунного ответа в очаге инфекции, а именно в усилении продукции интерферона лейкоцитами, стимуляции цитотоксической активности NK-клеток. Принимая во внимание выявленные у пациентов иммунологические нарушения и эффекты Аллокина, мы сочли целесообразным применить раствор Аллокина у пациентов с часто рецидивирующим респираторным папилломатозом. Под наблюдением находились 6 больных с локализацией папиллом в полости носа, глотки и в области трахеостомы, с частотой возникновения рецидивов через 1-2 месяца. У всех больных диагноз подтвержден гистологически. В операционном материале обнаружены ВПЧ (методом ПЦР) 6/11 типов у 5 больных и 16/18 типов у 1 больного. Курс лечения состоял из 3 инъекций 1 мг Аллокина в объеме 1 мл под слизистую оболочку или кожу непосредственно в очаге поражения после предварительного хирургического удаления папилломатозных разрастаний 1 раз в сутки.

Ни у одного больного не наблюдалось местной воспалительной реакции в месте введения. Катамнез составил 4-4,5 месяца, ни в одном случае рецидива папиллом не наблюдалось. Эффект от местного введения Аллокина расценен нами как удлиннение межрецидивного периода в течении РРП.

Наш опыт комбинированного лечения рецидивирующего папилломатоза включает применение на этапе предоперационной подготовки и в послеоперационном периоде противовирусного препарата, представителя семейства аллоферонов, геля алломедин (ООО «Аллофарм», Санкт-Петербург).

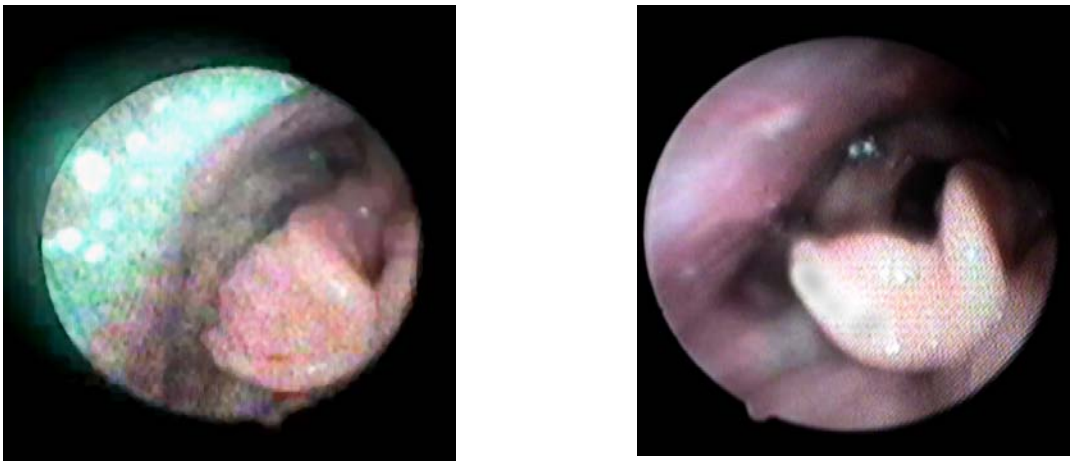
Для оценки эффективности препарата алломедин нами было проведено обследование и лечение 17 больных с РРП. Среди них папилломы преддверия носа наблюдались у 5 человек, папилломы глотки – у 3 человек, гортани – у 7 человек, в области трахеостомы – у 1 больного, смешанной локализации у 2 человек (гортаноглотка, носоглотка и гортань).

У всех пациентов, включенных в исследование, отмечались частые рецидивы роста папиллом. В 7 случаях наблюдались солитарные папилломы диаметром 7-12 мм, в 10 случаях – стелющиеся папилломы с максимальной площадью поражения 20 мм. Клиническое обследование включало: определение в секретах из пораженной области концентрации sIgA и IgA иммуноферментным методом, гистологическое исследование биоптатов и определение ДНК ВПЧ в биоптатах с их типированием методом ПЦР.

При локализации папиллом в носовой полости концентрацию sIgA и IgA определяли в назальном смыве, при папилломах глотки - в слюне. Материал для исследования получали до начала местной иммунокорригирующей терапии, через 24 часа и после окончания курса терапии. При изучении препаратов, окрашенных по Папаниколау, определена пролиферирующая плоскоклеточная папиллома с участками кератоза во всех случаях. По результатам вирусологического исследования полимеразной цепной реакци, ВПЧ 6/11 типов обнаружен в 4 случаях, 16/18 типов – 1 случай, 6/8 типы – в 1 случае, неидентифицированно ДНК ВПЧ было в одиннадцати случаях при гистологически подтверждённом диагнозе.

Препарат алломедин (в форме геля) наносили 2-3 раза в день в течение двух – трех недель непосредственно на папилломы и зону слизистой оболочки в непосредственной близости от папилломы.

Отмечалось постепенное уменьшение размеров папиллом во всех случаях: они становились плоскими, уменьшалась площадь процесса (Рис.1). В среднем размеры папиллом уменьшались на 1/3. После проведения курса лечения препаратом алломедин, семи больным не потребовалось дополнительное оперативное вмешательство: папиллома полностью исчезла у 3-х больных, у 4-х - значительно уменьшилась. 6 больным при стабилизации размеров новообразований на фоне проводимого лечения, под местной анестезией осуществлялось удаление папиллом диодным лазером контактно. В послеоперационном периоде вновь проводились аппликации алломедина на раневую поверхность два – три раза в день до полной эпителизации.



До лечения **После лечения**

Рисунок 1. Эндоскопическая картина гортани пациента с респираторным папилломатозом (локализация папиллом на гортанной поверхности надгортанника) до и после проведения терапии алломедином.

До начала курса терапии у 16 больных концентрация sIgA была значительно ниже нормы (табл.1). Через сутки после начала терапии алломедином уровень sIA достоверно превышал исходный уровень у 90% пациентов. После окончания курса терапии уровень иммуноглобулина как в слюне, так и в назальном смыве снизился, но

был достоверно выше исходного. После окончания курса терапии концентрация sIgA превышала исходный уровень, но была ниже физиологической нормы.

Таблица 1.

Динамика уровня sIgA в секретах пациентов с рецидивирующим респираторным папилломатозом в ходе местной терапии алломедином.

Биологический материал	Исходный уровень	Через сутки	После окончания терапии	Норма
Слюна(мг/л)	59,7 ± 18,5*	170± 34,3	138,4 ± 51,2	207,5 + 92,2
Назальный смыв (мг/л)	8,9 ± 4,3*	22,5 ± 1,4	18,2 ± 2,2	30,20 ±7,5

* – достоверность различия с исходными показателями доказана при $p<0,05$.

Аллергических реакций, неприятных ощущений в области применения алломедина не наблюдалось ни в одном случае. Во всех случаях произошла эпителизация в сроки от 7 до 20 дней в зависимости от площади поражения. Рецидив заболевания наблюдался у двоих пациентов: в одном случае через месяц после окончания курса аппликаций препарата, во втором – через год после окончания лечения. У остальных 15 пациентов рецидива заболевания не отмечено. Сроки наблюдения составляли от 2 до 16 месяцев.

Таким образом, проведенное исследование показало высокую эффективность и безопасность местного применения аллокина и алломедина в комбинированном лечении папилломатоза. По нашему мнению, необходимы дальнейшие исследования эффективности и механизмов действия Алломедина Аллокина в качестве препаратов для противорецидивной терапии РРП, а также, отработка индивидуальных доз и кратности их применения.

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ЭФФЕКТИВНОСТЬ КОМПЛЕКСНОЙ КОНСЕРВАТИВНОЙ ТЕРАПИИ ХРОНИЧЕСКОГО ТОНЗИЛЛИТА

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Небные миндалины как лимфоэпителиальный орган являются частью иммунной системы человеческого организма, способны чутко реагировать на происходящие в организме и в окружающей среде неполадки [4, 6]. Помимо генетически обусловленных предпосылок возникновения хронического тонзиллита (ХТ) связанных с врожденными дефектами различных звеньев иммунитета [1, 3, 7], выделяют и фенотипически обусловленные причины, к которым относятся вторичные иммунодефицитные состояния, возникающие под воздействием неблагоприятных факторов окружающей среды, в том числе климатических, геофизических, экологических, социально-бытовых условий, стрессовых ситуаций, приводящих к нарушению нейрогуморальных регуляций в организме [2, 5, 6]. Учитывая развитие большого количества заболеваний на фоне ХТ, изучение его эпидемиологии в условиях резко-континентального климата Амурской области и г. Благовещенска, в частности, является актуальной проблемой.

Жители Амурской области, проживающие в условиях резко-континентального климата, подвергаются воздействию ряда неблагоприятных факторов, среди которых - резкие перепады летних и зимних температур (от +40 до – 50ºС и ниже), высокая и низкая влажность воздуха. Неблагоприятные факторы приводят к снижению адаптационных возможностей организма к условиям окружающей среды, повышению заболеваемости ЛОР-органов не только в холодное время года, но и в «межсезонье» [2].

Материалы и методы

Нами была проанализирована структура заболеваемости ЛОР-органов населения г.Благовещенска и Благовещенского района Амурской области за 2007 год у взрослого населения от 18 до 65 лет путем проведения анкетирования в рамках рандомизированного опроса.

Кроме того, за период 2006 – 2007 гг. нами наблюдалось 80 пациентов с ХТ. Возраст пациентов - от 18 до 55 лет, из них мужчин было 38 (47,5%), женщин – 42 (52,5%), средняя длительность заболевания от 1 года до 10 лет. Нами разработаны и внедрены новые методы комплексной консервативной терапии: фотодинамическая терапия с применением лазерофореза антиоксиданта, светодиодный фотофореза, а также местное применение антиоксидантной терапии. Из 80 пациентов сформировано четыре равноценных группы: I группа (20 человек) – пациенты, получавшие помимо традиционной терапии местную антиоксидантную терапию путем введения в полость лакун 0,5% раствора дигидрокверцетина; II группа (20 человек) – пациенты, получавшие помимо традиционной терапии комплексное лечение антиоксидантом и некогеррентным светом путем светодиодного фотофореза 0,5% раствора дигидрокверцетина на область миндалин; III группа (20 человек) – пациенты, получавшие комплексное лечение – наряду с традиционной терапией фотодинамическую терапию путем лазерофореза 0,5% раствора дигидрокверцетина на область миндалин; IV группа (20 человек) – пациенты, получавшие только традиционное лечение – промывание лакун по Белоголовову Н.В. раствором антисептика (0,02% раствор фурацилина). Курс комплексной терапии составил 7 дней, традиционного лечения – 14 дней.

Для оценки эффективности проводимого лечения определялась динамика фарингоскопической картины, величина показателей перекисного окисления липидов (ПОЛ) и антиоксидантной защиты (АОЗ) сыворотки крови, некоторых показателей иммунологического статуса всех групп пациентов до и после лечения в сравнении с показателями контрольной группы условно здоровых людей (20 человек).

Результаты и обсуждение

В структуре ЛОР-заболеваемости на первом месте - воспалительные заболевания слизистой оболочки носа и околоносовых пазух, на втором - глотки и на третьем месте заболевания уха.

Среди патологических состояний глотки ХТ занял 12,7%. При этом средний возраст больных составил 28,7±1,5 лет, а средняя длительность заболевания 5,3±0,4 года (от 1 до 10 лет).

Распределение хронического неспецифического тонзиллита среди сельского и городского населения составило 42,6 % и 57,4 % соответственно, в том числе декомпенсированные формы заболевания выявлены в 32,6% случав. При этом распространенность декомпенсированых форм преобладала среди городского населения в 2,4 раза (рис.1).

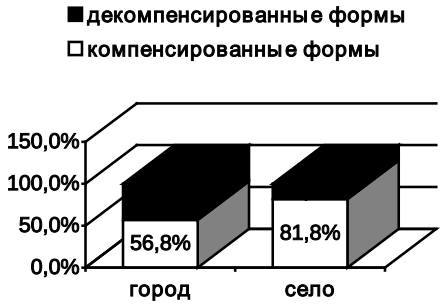

Рис.1. Распределение форм тонзиллита среди городского и сельского населения (в %)

За период с 2001 по 2007 годы отмечен неуклонный рост различных форм неспецифического ХТ с 6,5 до 12,7% соответственно.

Оценивая эффективность предложенных методов комплексного консервативного лечения, в первых трех группах пациентов результаты фарингоскопической картины выглядели равнозначными. После 7 курсов санации лакун небных миндалин у 56 (93,3%) пациентов отмечено значительное уменьшение гипертрофии небных миндалин с исчезновением казеозных масс. Уменьшение выраженности местных признаков хронического тонзиллита выявлено у 55 (91,7%) пациентов на 6-7-е сутки. В четвертой же группе подобный результат фиксировался не ранее 12-14 суток у 11 (55 %) человек. Значительное уменьшение подчелюстного лимфаденита отмечено у 41 (68,3%) пациентов трех первых групп и у 7 (35 %) пациентов четвертой группы

В течение года динамического наблюдения после проведенного лечения у пациентов первой и второй групп зарегистрировано по 3 (15%) случая острого тонзиллита и паратонзиллита, в третьей группе – 2 (10%) случая. В четвертой группе пациентов зарегистрировано 7 (35 %) случаев острого тонзиллита и паратонзиллита после проведенного лечения в течение года.

Изменения, происходящие в организме лиц, страдающих хроническим воспалением небных миндалин, сопровождаются синдромом пероксидации, угнетением системы АОЗ и расходованием ее компонентов. У всех пациентов в сформированных четырех группах до проводимого лечения выявлено достоверное

(p_1<0,001) повышение значений продуктов ПОЛ по сравнению с контрольной группой. В сравнении с группой пациентов, получавших только традиционную терапию, достоверной разницы в значениях ПОЛ не зарегистрировано (p_2> 0,05). Через 10 дней после лечения в первой группе определяется снижение значений продуктов ПОЛ - диеновых конъюгатов на 27,5 %, малонового диальдегида на 15,4 %, гидроперекисей липидов на 2,8 %, по отношению к исходной величине. Во второй группе данные показатели уменьшились соответственно диеновые конъюгаты на 30,6 %, малоновый диальдегид на 16,7 %, гидроперекисей липидов на 4 %, по отношению к исходной величине (таб.1). В третьей группе отмечено более выраженное снижение диеновых конъюгатов на 30,2%, малонового диальдегида на 17,2%, гидроперекиси липидов на 4,3% по отношению к исходной величине (p_1<0,05). В четвертой группе не определяется существенного снижения значений продуктов ПОЛ, разница с контрольной группой по-прежнему составила p_1<0,001 (таб. 2).

Через 30 дней после лечения в I, II, III группах показатели продуктов ПОЛ приближаются к значениям контрольной группы (p_1>0,05). В четвертой группе динамика рассматриваемых показателей менее выражена. Здесь хотя и отмечается уменьшение показателей продуктов ПОЛ: диеновых конъюгатов на 27,6%, малонового диальдегида на 12,9%, гидроперекисей липидов на 1,2% от исходной величины, однако данные показатели остаются повышенными и не достигают значений контрольной группы (p_1<0,01) (таб.1-2).

Оценивая систему АОЗ тканей у больных ХТ, следует отметить, что исходный уровень показателей у больных всех групп достоверно снижен: церулоплазмин на 19,5-20,4%, α–токоферол на 18,9-19,7% (p_1<0,001) по отношению к контрольной группе. В сравнении с группой пациентов, получавших только традиционную терапию, достоверной разницы не зарегистрировано (p_2> 0,05) (таб.1-2).

Таблица 1.

Динамика показателей ПОЛ и АОЗ у пациентов I и II групп.

Показатель контрольной группы	До лечения	Через 10 дней	Через 30 дней	До лечения	Через 10 дней	Через 30 дней
	1 группа n=20	1 группа n=20	1 группа n=20	2 группа n=20	2группа n=20	2 группа n=20
Гидроперекиси липидов, нмоль/мл 28,5±0,7	32,2±0,4 p_1<0,001 p_2>0,05	31,3±0,8 p_1<0,05 p_2>0,05	29,8±0,9 p_1>0,05 p_2<0,001	32,5±0,6 p_1<0,001 p_2>0,05	31,2±0,8 p_1<0,05 p_2>0,05	29,4±0,9 p_1>0,05 p_2<0,001
Диеновые конъюгаты, нмоль/мл 32,6±0,8	49,5±0,7 p_1<0,001 p_2>0,05	34,6±0,5 p_1<0,05 p_2<0,001	32,8±0,6 p_1>0,05 p_2<0,001	49,6±0,9 p_1<0,001 p_2>0,05	34,4±0,6 p_1<0,05 p_2<0,001	32,5±0,4 p_1>0,05 p_2<0,001
Малоновый диальдегид, нмоль/мл 5,75±0,2	7,8±0,2 p_1<0,001 p_2>0,05	6,6±0,3 p_1<0,05 p_2<0,05	5,9±0,3 p_1>0,05 p_2<0,01	7,8±0,3 p_1<0,001 p_2>0,05	6,5±0,3 p_1<0,05 p_2<0,05	5,9±0,3 p_1>0,05 p_2<0,01
церулоплазмин 22,6±0,5 мг/100 мл	18,1±0,4 p_1<0,001 p_2>0,05	20,7±0,6 p_1<0,05 p_2<0,01	21,6±0,3 p_1>0,05 p_2<0,05	18,1±0,4 p_1<0,001 p_2>0,05	20,6±0,5 p_1<0,05 p_2<0,01	21,7±0,4 p_1>0,05 p_2<0,05
α – токоферол 22,8±0,6 мкг/мл	18,4±0,5 p_1<0,001 p_2>0,05	21,5±0,5 p_1<0,05 p_2<0,001	22,1±0,5 p_1>0,05 p_2<0,05	18,4±0,4 p_1<0,001 p_2>0,05	21,6±0,3 p_1<0,05 p_2<0,001	22,3±0,4 p_1>0,05 p_2<0,01

p_1 – показатель сравнения приводится с контрольной группой

p_2 – показатель сравнения приводится с IV группой

Таблица 2.

Динамика показателей ПОЛ и АОЗ у пациентов III и IV групп.

Показатель контрольной группы	До лечения	Через 10 дней	Через 30 дней	До лечения	Через 10 дней	Через 30 дней
	3 группа n=20	3 группа n=20	3 группа n=20	4 группа n=20	4 группа n=20	4 группа n=20
Гидроперекиси липидов, моль/мл 28,5±0,7	32,5±0,6 $p_1<0,001$ $p_2>0,05$	31,1±0,7 $p_1<0,05$ $p_2>0,05$	28,6±0,5 $p_1>0,05$ $p_2<0,001$	32,3±0,5 $p_1<0,001$	32,2±0,5 $p_1<0,001$	31,9±0,7 $p_1<0,01$
Диеновые конъюгаты, нмоль/мл 32,7±0,8	49,3±1,0 $p_1<0,001$ $p_2>0,05$	34,4±0,7 $p_1<0,05$ $p_2<0,001$	32,1±0,6 $p_1>0,05$ $p_2<0,001$	49,6±0,7 $p_1<0,001$	44,9±0,8 $p_1<0,001$	35,9±0,6 $p_1<0,01$
Малоновый диальдегид, нмоль/мл 5,75±0,2	7,9±0,3 $p_1<0,001$ $p_2>0,05$	6,5±0,3 $p_1<0,05$ $p_2<0,05$	5,8±0,2 $p_1>0,05$ $p_2<0,01$	7,7±0,2 $p_1<0,001$	7,6±0,2 $p_1<0,001$	6,7±0,2 $p_1<0,01$
церулоплазмин, мг/100 мл 22,6±0,5	18,1±0,5 $p_1<0,001$ $p_2>0,05$	20,8±0,5 $p_1<0,05$ $p_2<0,05$	22,1±0,4 $p_1>0,05$ $p_2<0,01$	18,1±0,3 $p_1<0,001$	18,3±0,6 $p_1<0,001$	20,2±0,4 $p_1<0,01$
α – токоферол, мкг/мл 22,8±0,6	18,4±0,6 $p_1<0,001$ $p_2>0,05$	21,7±0,3 $p_1<0,05$ $p_2<0,001$	22,6±0,2 $p_1>0,05$ $p_2<0,001$	18,4±0,4 $p_1<0,001$	18,7±0,4 $p_1<0,001$	20,9±0,4 $p_1<0,01$

p_1 – показатель сравнения приводится с контрольной группой

p_2 – показатель сравнения приводится с I Vгруппой

Через 10 дней после проведенного лечения показатели церулоплазмина и α–токоферола значительно увеличились в I, II, III группах ($p_1<0,05$). В первой группе церулоплазмин увеличился на 12,6%, α–токоферол на 14,4% от исходной величины. Во второй группе церулоплазмин увеличился на 12,1%, α–токоферол на 14,8% от исходной величины. В третьей группе церулоплазмин увеличился на 12,9%, α–токоферол на 15,2% от исходной величины. В четвертой группе динамики показателей АОЗ по отношению к контрольной группе отмечено не было ($p_1<0,001$).

Через 30 дней после лечения показатели антиоксидантной защиты в первой, второй, третьей группах повысились, достигнув значений контрольной группы (таб.1-2). Показатель сравнения с контрольной группой составил $p_1>0,05$. В четвертой группе динамика менее выражена: отмечается повышение церулоплазмина на 10,4% , α–токоферола на 11,9% от исходной величины ($p_1<0,01$).

Таким образом, проведя анализ динамики полученных результатов ПОЛ и АОЗ, установлена более быстрая динамика наибольшего числа показателей в третьей клинической группе пациентов (рис. 2), получавших фотодинамическую терапию, а наименьшая – в четвертой группе, получавшей только традиционную терапию (рис. 3).

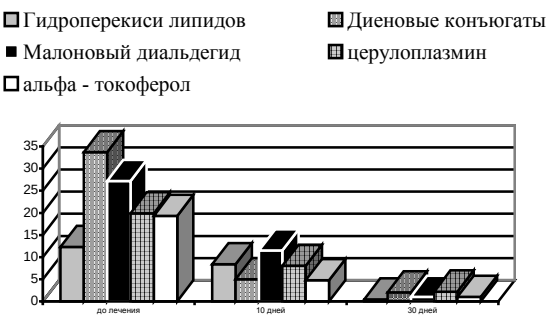

Рис.2. Динамика показателей продуктов ПОЛ и системы АОЗ у пациентов третьей группы по отношению к контрольной группе (%).

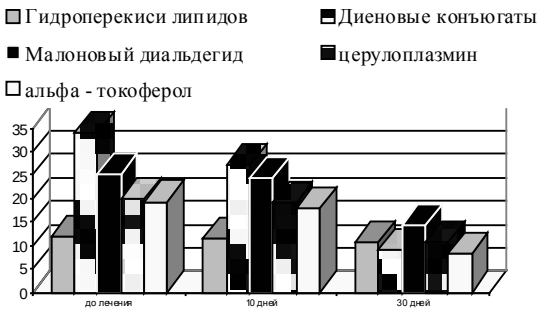

Рис.3. Динамика показателей продуктов ПОЛ и системы АОЗ у пациентов четвертой группы по отношению к контрольной группе (%).

Из первичных результатов исследований иммунологического статуса больных с ХТ выявлено достоверное снижение уровня Т-лимфоцитов (CD3+), Т-хелперов (CD4+), NK-клеток (натуральных киллеров, CD16+), IgA, индекса завершенности фагоцитоза (ИЗФ) на 13,4-13,6%, 24,5-24,8%, 43,5%, 33,3%, 37% соответственно по отношению к контрольной группе (p_1<0,001) (таб. 3-4).

Таблица 3.

Динамика показателей клеточного и гуморального иммунитета у пациентов I и II групп с хроническим тонзиллитом до и после лечения.

Показатель контрольной группы	До лечения	Через 10 дней	Через 30 дней	До лечения	Через 10 дней	Через 30 дней
	1 группа n=20	1 группа n=20	1 группа n=20	2 группа n=20	2 группа n=20	2 группа n=20
CD3+ 65,3±0,3% (1513±1,2*10^6/л)	56,5±0,6 (1308±1,7) p_1<0,001 p_2>0,05	59,5±0,6 (1377±1,8) p_1<0,001 p_2>0,05	64,7±0,6 (1500±2,0) p_1>0,05 p_2>0,05	56,5±0,6 (1309±1,9) p_1<0,001 p_2>0,05	61,2±0,4 (1417±1,4) p_1<0,001 p_2<0,01	65,1±0,4 (1509±1,5) p_1>0,05 p_2>0,05
CD4+ 47,2±0,2% (918±4,2*10^6/л)	35,5±0,5 (690±2,6) p_1<0,001 p_2>0,05	40,3±1,0 (784±4,1) p_1<0,001 p_2>0,05	46,8±0,7 (910±3,4) p_1>0,05 p_2>0,05	35,5±0,7 (691±2,4) p_1<0,001 p_2>0,05	42,4±0,6 (826±2,4) p_1<0,001 p_2<0,001	47,1±0,6 (916±4,0) p_1>0,05 p_2>0,05
CD8+ 27,3±0,4% (410±1,2*10^6/л)	26,8±0,3 (405±1,3) p_1>0,05 p_2>0,05	27,2±0,5 (408±1,4) p_1>0,05 p_2>0,05	27,2±0,5 (411±1,7) p_1>0,05 p_2>0,05	26,7±0,4 (406±2,0) p_1>0,05 p_2>0,05	27,2±0,5 (410±1,4) p_1>0,05 p_2>0,05	27,2±0,5 (412±1,4) p_1>0,05 p_2>0,05
CD16+ 13,1±0,1%	7,4±0,07 p_1<0,001 p_2>0,05	9,6±0,11 p_1<0,001 p_2<0,001	12,7±0,21 p_1>0,05 p_2>0,05	7,4±0,07 p_1<0,001 p_2>0,05	9,6±0,4 p_1<0,001 p_2<0,001	12,8±0,24 p_1>0,05 p_2>0,05
CD19+ 17,2±0,3% (344±1,2*10^6/л)	17,4±0,2 (345±1,2) p_1>0,05 p_2>0,05	17,1±0,1 (343±1,5) p_1>0,05 p_2>0,05	17,1±0,1 (342±1,3) p_1>0,05 p_2>0,05	17,4±0,3 (345±1,6) p_1>0,05 p_2>0,05	17,3±0,2 (344±1,1) p_1>0,05 p_2>0,05	17,3±0,2 (344±1,5) p_1>0,05 p_2>0,05
CD25+ 4,1±0,2%	13,5±0,4 p_1<0,001 p_2>0,05	7,6±0,4 p_1<0,001 p_2<0,01	4,3±0,4 p_1>0,05 p_2>0,05	13,6±0,6 p_1<0,001 p_2>0,05	7,7±0,3 p_1<0,001 p_2<0,01	4,2±0,2 p_1>0,05 p_2>0,05
IgG, г/л 12,6±0,3	12,9±0,2 p_1>0,05 p_2>0,05	12,5±0,3 p_1>0,05 p_2>0,05	12,5±0,3 p_1>0,05 p_2>0,05	12,9±0,3 p_1>0,05 p_2>0,05	12,7±0,4 p_1>0,05 p_2>0,05	12,7±0,4 p_1>0,05 p_2>0,05
IgM, г/л 1,1±0,05	1,5±0,02 p_1<0,001 p_2>0,05	1,3±0,02 p_1<0,001 p_2>0,05	1,2±0,03 p_1>0,05 p_2<0,01	1,5±0,02 p_1<0,001 p_2>0,05	1,3±0,02 p_1<0,001 p_2>0,05	1,2±0,02 p_1>0,05 p_2<0,01
IgA, г/л 1,8±0,03	1,2±0,02 p_1<0,001 p_2>0,05	1,4±0,04 p_1<0,001 p_2<0,05	1,7±0,04 p_1>0,05 p_2<0,05	1,2±0,02 p_1<0,001 p_2>0,05	1,4±0,03 p_1<0,001 p_2<0,05	1,7±0,05 p_1>0,05 p_2<0,05
ИЗФ 1±0,04	0,63±0,01 p_1<0,001 p_2>0,05	0,91±0,01 p_1<0,001 p_2<0,001	1±0,02 p_1>0,05 p_2<0,001	0,63±0,01 p_1<0,001 p_2>0,05	0,91±0,01 p_1<0,001 p_2<0,001	1±0,02 p_1>0,05 p_2<0,001

p_1 – показатель сравнения приводится с контрольной группой p_2 – показатель сравнения приводится с VI группой

Достоверное повышение в первичном иммунологическом исследовании определяется в показателях Т-активных маркеров ранней активации воспаления (CD25+) и IgM на 69,6-69,8% и 26,7% соответственно по отношению к контрольной группе, достигая 13,5-13,6 % и 1,5 г/л соответственно (p1<0,001).

При исследовании содержания В-лимфоцитов (CD19+), Т-цитотоксических клеток (CD8+), IgG в сыворотке крови у всех исследуемых больных не отмечено значительной разницы с показателями контрольной группы 17,4-17,5±0,4 % (p1>0,05), 26,7-26,9±0,4 % (p1>0,05), 12,9±0,2 г/л (p1>0,05) соответственно.

В сравнении с группой пациентов, получавших только традиционную терапию, достоверной разницы в значениях иммунологических показателей не зарегистрировано (p2> 0,05).

Таблица 4.

Динамика показателей клеточного и гуморального иммунитета у пациентов III и IV групп хроническим тонзиллитом до и после лечения.

Показатель контрольной группы	До лечения	Через 10 дней	Через 30 дней	До лечения	Через 10 дней	Через 30 дней
	3 группа n=20	3 группа n=20	3 группа n=20	4 группа n=20	4 группа n=20	4 группа n=20
CD3+ 65,3±0,3 % (1513±1,2*10^6/л)	56,5±0,8 (1309±1,7) p_1<0,001 p_2>0,05	65,2±0,5 (1510±1,5) p_1>0,05 p_2<0,001	65,2±0,4 (1511±1,6) p_1>0,05 p_2>0,05	56,6±0,7 (1310±1,6) p_1<0,001	58,6±0,7 (1357±1,8) p_1<0,001	64,2±0,4 (1487±1,7) p_1<0,01
CD4+ 47,2±0,2% (918±4,2*10^6/л)	35,5±0,6 (693±2,4) p_1<0,001 p_2>0,05	46,7±0,8 (908±3,1) p_1>0,05 p_2<0,001	47,3±0,5 (919±3,5) p_1>0,05 p_2<0,05	35,6±0,7 (692±2,5) p_1<0,001	38,8±0,7 (755±3,3) p_1<0,001	46,1±0,2 (897±3,2) p_1<0,01
CD8+ 27,3±0,4% (410±1,2*10^6/л)	26,9±0,3 (406±1,5) p_1>0,05 p_2>0,05	27,4±0,5 (409±1,4) p_1>0,05 p_2>0,05	27,4±0,4 (412±1,3) p_1>0,05 p_2>0,05	26,8±0,5 (406±1,5) p_1>0,05	26,8±0,5 (410±1,4) p_1>0,05	26,8±0,5 (408±1,5) p_1>0,05
CD16+ 13,1±0,1%	7,4±0,06 p_1<0,001 p_2>0,05	12,8±0,4 p_1>0,05 p_2<0,001	13,0±0,2 p_1>0,05 p_2<0,05	7,4±0,07 p_1<0,001	7,9±0,2 p_1<0,001	12,3±0,2 p_1<0,01
CD19+ 17,2±0,3% (344±1,2*10^6/л)	17,4±0,4 (344±1,2) p_1>0,05 p_2>0,05	16,9±0,2 (340±1,2) p_1>0,05 p_2>0,05	17,2±0,2 (343±1,3) p_1>0,05 p_2>0,05	17,5±0,3 (345±1,6) p_1>0,05	17,4±0,3 (343±1,3) p_1>0,05	16,9±0,3 (341±1,2) p_1>0,05
CD25+ 4,1±0,2 %	13,6±0,3 p_1<0,001 p_2>0,05	3,8±0,4 p_1>0,05 p_2<0,001	4,1±0,3 p_1>0,05 p_2>0,05	13,5±0,4 p_1<0,001	10,2±0,7 p_1<0,001	4,5±0,3 p_1<0,01
IgG, г/л 12,6±0,3	12,9±0,3 p_1>0,05 p_2>0,05	12,2±0,2 p_1>0,05 p_2>0,05	12,2±0,2 p_1>0,05 p_2>0,05	12,9±0,2 p_1>0,05	12,8±0,3 p_1>0,05	12,8±0,3 p_1>0,05
IgM, г/л 1,1±0,05	1,5±0,02 p_1<0,001 p_2>0,05	1,2±0,03 p_1>0,05 p_2<0,01	1,1±0,03 p_1>0,05 p_2<0,001	1,5±0,02 p_1<0,001	1,3±0,02 p_1<0,001	1,3±0,04 p_1<0,01
IgA, г/л 1,8±0,03	1,2±0,02 p_1<0,001 p_2>0,05	1,7±0,03 p_1>0,05 p_2<0,001	1,8±0,04 p_1>0,05 p_2<0,001	1,2±0,02 p_1<0,001	1,3±0,03 p_1<0,001	1,5±0,07 p_1<0,01
ИЗФ 1±0,04	0,63±0,01 p_1<0,001 p_2>0,05	1±0,03 p_1>0,05 p_2<0,001	1±0,03 p_1>0,05 p_2<0,01	0,63±0,01 p_1<0,001	0,65±0,02 p_1<0,001	0,89±0,02 p_1<0,01

p_1 – показатель сравнения приводится с контрольной группой

p_2 – показатель сравнения приводится с VI группой

Через 10 дней после проведенного лечения исследуемые показатели максимально приблизились к контрольным значениям только в третьей группе (p_1>0,05) (таб.4). Минимальные сдвиги (разница показателей) были зафиксированы в четвертой группе – пациенты, получавшие только традиционное лечение с санацией лакун растворами антисептиков (таб.4).

Через 30 дней в группах I-III выявлена положительная динамика, нормализация показателей с максимальным сокращением разницы по отношению к контрольной группе (p_1>0,05). В четвертой группе зафиксирована наибольшая разница по отношению к контрольной группе (p_1<0,01), при этом показатель ИЗФ к норме не возвращался.

Выводы:

1. Отмечена эффективность применения методов комплексного консервативного лечения ХТ с применением местной антиоксидантной терапии, светодиодного фотофореза антиоксиданта, фотодинамической терапии.
2. Эффективность предлагаемых методов комплексного лечения подтверждена клиническими, иммунологическими, биохимическими исследованиями, и составила 86,7%, при этом эффективность фотодинамической терапии достигала 90%, что значительно превосходит данный показатель у традиционного лечения (65%).
3. Предлагаемые методы лечения ХТ позволяют исключить возникновение рецидивов острых тонзиллитов, осложнений в виде паратонзиллярных абсцессов, и значительно сократить показания к тонзиллэктомии.

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ENDOSCOPIC LASER-ASSISTED TREATMENT OF LARYNGEAL TUMOURS.

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Several studies have evaluated the use of endoscopic laser-assisted treatment of laryngeal tumours. Different types of lasers can be used. The CO2-laser gives an excellent view of the lesion, whereas the diode-laser is a good tool for lesions extending out of surgical view. In our experience glottic tumours as well as laser debulking of an obstructing carcinoma are good indications for endoscopic laser-assisted treatment. If negative surgical margins can be obtained high cure rates are to be expected. A good surgery room set up and a surgeon's experience add on the cure rate. Quality of life is well preserved. Hospitalization is minimal. We discuss the different glottic surgical procedures and general guidelines along with important post-operative care and possible complications. Results of a populations consisting of 45 patients with a follow up to 3 years is discussed.

AUDITORY PERFORMANCE AFTER COCHLEAR IMPLANTATION IN CHILDREN WITH CONGENITAL INNER EAR MALFORMATIONS

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Background & objectives: Children with congenital inner ear malformations have profound sensorineural hearing loss and need hearing rehabilitation. We conducted this study by comparing the hearing results between different types of inner ear malformation using category of auditory performance (CAP).

Methods: Between January 2000 through November 2006, 102 (18.1% of total 564) children with radiologically proven inner ear malformations received cochlear implantation (CI) at Seoul national university children's hospital. The patients with severe facial anomaly or showed developmental delay were excluded. The cochlear malformations were classified into common cavity, cochlear hypoplasia, incomplete partition type I, and incomplete partition type II by Sennaroglu's classification. Vestibular malformations and narrow IAC were also analyzed. Pre- and post-operative CAP scores were compared.

Results: The mean age at implantation was 76 (range, 13~180) months, and mean follow-up was 38 (range, 13~84) months. There was no difference between speech detection among groups of different anomalies before implantation. The group of common cavity, cochlear hypoplasia, and narrow IAC showed relatively low CAP score, while incomplete partition type I and vestibular malformation showed high CAP score over 4. The group of incomplete partition type II showed CAP score around 6~7. The CAP score got plateau 2 years after implantation.

Conclusion: In terms of auditory performance, children with congenital inner ear malformations may show different prognosis regarding different types of malformations. The group of incomplete partition type II shows almost same CAP score comparing with the children with normal inner ear structures.

EXPIRATORY UPPER AIRWAY NARROWING PRECEDES AIRWAY COLLAPSE IN CENTRAL SLEEP APNEA

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There is increasing evidence that upper airway narrowing starts during the expiration preceding the obstructive sleep apnea. Little is known, however, concerning upper airway narrowing during central sleep apnea.

We studied upper airway patency by using forced oscillations in 9 male patients previously diagnosed with sleep apnea, who exhibited ≥ 3 central sleep apnea events during the study night. Upper airway collapse was defined by the magnitude of respiratory impedance (|Z|) exceeding a threshold value of 25 hPa/L/s, the minimum value observed during the obstructive events that occurred during the same night in these patients.

In two-thirds of the 256 central sleep apnea events, there was clear evidence of upper airway collapse during apnea. Analysis of the two breaths before occluded central apnea in 119 events revealed that the time course of |Z| was dependent on either respiratory volume or flow, in both cases with a minimum value of |Z| observed at end-inspiration. During the last expiration before apnea, |Z| usually progressively increased to reach the highest value at end-expiration (~ 62% of |Z|apnea).

In conclusion, upper airway collapse is associated with central sleep apnea and airway narrowing starts during the expiration phase of the breath preceding central apnea.

EOSINOPHIL FUNGAL RHINOSINUSITIS: A SEPARATE CLINICAL ENTITY ?

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Introduction. Prospectively 118 patients between 1992 and 2006 were retained with the diagnosis of Eosinophilic Fungal Rhino sinusitis (EFRS). This is the largest group to date observed in a single centre.

Materials and Methods: Patients with chronic rhino sinusitis (CRS) were retained prospectively with the diagnosis of EFRS based on the pathological findings of eosinophilic mucin with (necrotic) eosinophils typically in layers, Charcot-Leyden crystals and fungal hyphae in different stages of decomposition. Positive fungal cultures have not been included in this study.

Results: Sixty-seven patients (57 %) were female and 51 (43 %) male. Patients with diabetes and immunodeficient disorders were excluded. Diagnosis was obtained through sampling at surgery in 45 (38%) cases . In the remaining 73 (61.8%) cases diagnosis was obtained through secretion samplings. Of interest 59 patients 50 % were diagnosed as EFRS-like lacking the finding of hyphae in their first samplings. In 71 (60%) patients, only one operation was performed. Forty-two (35.6%) patients needed more operations to a maximum of 7 operations in one patient. In 5 (4%) CRS patients diagnosis was based on sampling materials.

In 109 (92%) of the patients a pan sinusitis was observed. Unilateral disease occurred in 9 (8%) patients (2 unilateral, 2 hemi pan sinusitis with other side involvement within the year; 3 fungal balls; 1 pseudo tumor). Nasal Polyposis (NP) was noted in 70 (59%) CRS patients.

Allergy in 39(33%) ;asthma 39 (33%); allergy and asthma together in 24 (20%) cases. APA syndrome was retained in 15 (13%) cases.

Conclusion: In this largest single centre study, EFRS is not typically associated to young and/or atopic people. Pan sinusitis mainly occurs with Nasal Polyposis (NP) but importantly also without. Bad prognostic features for recurrence seem to be -amongst others- the intensity of eosinophils in the mucus plugs and the presence of NP. In this study EFRS strongly suggests systemic disease. Diagnosis is mainly based on (repeated) samplings. EFRS is a special clinical entity demanding a high dose of suspicion.

THE HISTOPATHOLOGY OF THE NASAL MUCOUS IN METALWORKERS.

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Prolonged perceived nasal mucouse atrophy resulting from professional environment Influence is an often practice of rhinology.

Several causes may induce significant atrophy. They are mixed dust of ferric oxide, dioxide silicon, the gases of nitrogen oxide, sulphurous gas, aromatic hydrocarbons, phenolses; the high temperature, infrared radiation.

Our patients are usually do not get some treatments and consider the present state accustomed. As treatments are offered use the moistenning inhalations, oil aplique works, immunostimulation therapy but are fail.

Insufficient attention spared by patient at current diseases, brings about late diagnostic of "started nose".

Considering trend to expansion of the evidences to surgical allowance at disease of the nose and introduction in broad practice FESS we introduced interesting to consider morphological picture of the mucous nose under chronic professional influence factor ambiences modern metallurgical production.

Objective: To analyze the quantitative and qualitative characteristics of the nasal mucous in metalworkers

Design: A prospective, nonrandomized, controlled, morphometric study.

Subjects: 90 steel farm workers and 12 healthy patients

Interventions: 21 biopsy were removed from patients with refractory atrophy and 69 from patients with normal nasal mucouse

Main Outcome Measures: The relative proportions of the soft tissue constituents of the atrophic and normal mucouse were measured and compared. The statistic correction was used to adjust for multiple comparisons. Qualitative assessment was performed to assess possible pathologic changes in all inferior turbinate tissues (IT).

Results: The artrophic inferior turbinate mucouse were significantly wider. The epithelium , which thickened from a mean ± SD of 64,5 ± 6,3 mcm , made the greatest contribution to the total decrease in the width of the IT (29.7%). The portion of the medial, lateral, and inferior layers of the lamina propria that houses inflammatory cells enlarged significantly in patients with IT atrophy compared with healthy control subjects. The relative proportion of the connective tissue, submucosal glands, and arteries decreased significantly in

all aspects of the atrophic mucosa. Fibrosis, inflammation were noted in atrophic ITs, yet there was no evidence of tissue destruction.

Conclusion: Understanding the histopathology of the atrophic IT is imperative for the development and management of IT reduction surgery in metalworkers.

ANTIMICROBIC PHOTODYNAMIC THERAPY IN CLINIC OF ENT-DISEASES.

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Now, in all over the world the new medical technology - photodynamic therapy (FDT) intensively develops. In clinic of ENT - diseases of medical faculty of RGMU studying the photodynamic influence on hospital stammes of microorganisms, and also efficiency of application FDT has been made at treatment of patients with various pyoinflammatory diseases in ENT-pathology.

Besides it comparative efficiency coherent (laser) and not coherent (light-emitting diode) kinds of radiation, and also various kinds of cationic photosensitizers has been studied. At carrying out of research of the microbial material received from patients in dynamics of treatment, it has been established, that there is a progressive decrease in quantity of the aethiologic significant pathogens. In parallel to the expressed reduction of quantity of microorganisms there was an improvement of a clinical picture of disease.

Data obtained by us testify to efficiency FDT at treatment of patients with pyoinflammatory diseases in otorhynolaryngology, especially the diseases caused by microorganisms which are resistent to antibacterial preparations. This kind of influence possesses has the wide spectrum of antibacterial activity, including representatives gram-positive and gram-negative florae, some kinds of anaerobes, and also fungicid activity.

Proceeding from the above-stated it is possible to approve, that application of antimicrobic photodynamic therapy in clinic of treatment of sharp and chronic infections with the use of cationic photosensitizers, coherent and not coherent light has high efficiency and wide prospects. FDT considerably reduces terms of rehabilitation of patients, possessing the expressed anti-inflammatory, antibacterial properties. It allows to reduce appreciably quantity of applied of anti-inflammatory means and antibacterial preparations, including expensive antibiotics, to the majority when the pathogenic microbial flora is resistant.

LARYNGOTRACHEOPLASTY WITH AUTOLOGOUS CARTILAGE RIB GRAFT IN CHILDREN.

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Introduction. Laryngotraheal stenosis is defined as a congenital or acquired narrowing of the airway. Congenital causes may include subglottic membranous or cartilaginous narrowing. Acquired may include trauma due to prolonged endotracheal intubation or laryngotracheal injury - cicatrical subglottic stenosis (CSGS). Surgical treatment of chronical laryngotraheal stenosis either congenital or acquired is still relevant problem of present-day otorhinolaryngology.

Methods. We retrospectively reviewed the charts of 17 patients who underwent treatment for laryngotracheal stenosis by using the Single-Stage Laryngotracheoplasty

(SSLTP) - 5 patients and Multiple-Stage Laryngotracheoplasty (MSLTP) - 12 patients between September 2000 and September 2007 at the ENT Department of Saint-Petersburg State Pediatric Medical Academy.

The principle of these operations is to increase the diameter of the laryngeal lumen. The ages of the children who underwent SSLTP ranged from 2 to 36 months (mean, 14,4 months; SD, 12,8 months). There were 3 boys and 2 girls. And the ages of those children who underwent MSLTP ranged from 24 to 216 months (mean, 78,0 months; SD, 61,3 months). There were 8 boys and 4 girls. All of patients had cicatrical subglottic stenosis. Among these patients 14 were tracheostomy-dependent prior to reconstruction.

Technique. SSLTP involves a mid-line incision made anteriorly in the cricoid and upper trachea. Under general anaesthesia the skin incision is made along the neck mid-line in projection of cricoid arch for the length of 3cm. By blunt way the cricoid arch and first 2-3 tracheal rings is exposed and cleaved. Then nasotracheal intubation is made by inserting an endotracheal tube with maximum size for given child's age to form wound distension but not more than 0.5cm. After that the skin incision in projection of cartilaginous part of right fifth rib is made. The subcutaneous tissue and underlying muscles is divided to expose the rib from the bony-cartilaginous junction to its sternal attachment. The resected cartilage supposes to be 3cm long with perichondrium on its upper surface. The cartilage is carved into the appropriate configuration – spindle-shaped form – and interposed between the cut edges of the cricoid cartilage and tracheal rings. The graft is positioned with the perichondrial layer facing the airway lumen and fixed to cricotracheostome with 4-0 vicril sutures. The elastic drain is placed in the postoperative wound and overlying tissues is sutured layerwise. The stenting period requires a stay in the intensive care unit, as the patient is intubated.

MSLTP is the similar but utilizes the endotracheal indwelling rolled silicone stent above the tracheotomy tube to stabilize the graft in the postoperative period. Indwelling stent was left in situ for 30 days and 2 times changed during next 60 days. After that the patient requires a further surgical procedure to remove the stent and is subsequently decannulated.

Results. The CSGS-es were corrected by two techniques of widening the airway.

SSLTP with a cartilage rib graft and temporary stanting using an endotracheal tube. The extubation rate from surgery was 100% (5 out of 5).

MSLTP with a cartilage rib graft and prolonged post-operative intraluminal stenting. The decannulation rate was 91,6% (11 out of 12).

There were no donor site complications in any of 17 cases.

CONCLUSION

Most infants and children with significant CSGS still depend upon a tracheostomy while awaiting definitive treatment of an acquired stenosis or when initial treatment of post-intubation injury has failed. The open surgical techniques, SSLTP and MSLTP can precisely correct CSGS with minimal morbidity and high decannulation rates. Use of graft and stenting make a marked increase in the airflow through the larynx and upper trachea. LTP with autologous cartilage rib grafts is an effective and reliable technique for the surgical management of CSGS.

ALTERATION OF BREATH APPARATUS FUNCTION OF PATIENT WITH SEPTAL DEFORMATION

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Alteration of the nose breathing accompanied by the lung respiratory disfunction (Yu.Ulyiano, 1997). The aim of the study was examination of breath function of patients with septal deformation.

Material of the study: clinical observation and results of the specific examination of the 58 patients with septal deformation. The function of the breath was tested by spirographic curve "flow-volume" and rhinomanometry by pneumotachometric method on apparatus "Rhinoscreen" ("Jaeger" Germany).

All patients have been devided in 3 groups. The 1st group patients had results of increasing of air flow at the stage of inspiration on the same side of deformation till 80+3,0 ml/sec at 75 Pa, 173,7+5,0 ml/sec, at 150 Pa and 200+4,0 ml/sec at 300 Pa. However, al these abnormality didn't have any sign of breath disfunction. The patients of the second group had 86% of normal FVC (The Forced Vital Capacity of lungs). There was decreasing of FVC and FEV1 for 1 sec spirometrically. However, correlation of FEV to FVC kept normal, 75%. It means that mechanism of the breath disfunction of all these patients is limiting of the lung spread and shown as a low lung volume with increasing of moving force of the expiration flow (T.A.Grippi, 2004). Those change of the breath function caused by limited inspiration of the patients with septal deformation. We found decreasing of air flow at the stage of inspiration rhinomanometrically untill 75 Pa to 76 ml + 3,0 ml/sec, 150 Pa to 170 + 40 ml/sec, 300 Pa to 190 + 3,6 ml/sec. The third group of the patients had VC and FVC measures 71,29% and 80,91% which are less than those in the second group. Correlation of FVC to FEV1 shown normal figures which are according to the restrictive type of the breath alteration. There was decreasing of expiration flow peak between 25 % and 75 % of the forced vital capacity of lungs. So, FEV25, FEV50 and FEV75 had meaning 73,24 %, 62,7 %, 77,4 % accordingly. Thus, limited air flow created conditions for restrictive alterations. Reduced elastic force of lungs led to narrowing of small bronchial tubes, developing obstructive processes.

OPTIMIZATION OF DIAGNOSTICS AND TREATMENT OF JUVENILE ANGIOFIBROMA OF NASOPHARYNX.

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Juvenile angiofibroma of nasopharynx has significantly changed its clinical outfit recently. It became mostly found in kids. That is the reason for finding and improving new methods of diagnostics and radical surgery in meters of growing organism. Despite its nonmalignant structure it has expanded growth. Usually it totally occupies nasopharynx, and expands to anatomical structures of facial scull, scull base, and sometimes riches crain cavity.

During last 6 month 11 patients with juvenile angiofibroma of nasopharynx received surgery in ENT department, National Hospital of Kyrgyz Republic. Among them – one child of 9 years old, four children-11 years old, five-13-16 years old and one-18 years old. Its firs clinical symptoms were prolonged and treatment stable nasal discharge, nasal obstruction,

mucosal and purulent nasal flaw, epistaxis, facial deformation, lacrimation. Patients were carefully examined by pediatrician and underwent X-ray and endoscopic examination. To define topical placement of the mass, all of the patients had a CT of facial scull. This method permitted to define borders of the mass growth and stage of bone deformation of paranasal area and surrounding tissues. Endoscope approach was not used in patients with late appearance, wide growth and high risk to recidivate. Due to structure of angiofibroma, its connection with arterial blood vessels and intraoperative massive bleedings we found it necessary to legate external carotid arteries.

All 11 patients underwent mass excision by Moor transmaxillary surgical approach with Pogosov's modification. We made dissection of frontal process of maxilla, part of lacrimal and orbital lamina of ethmoid, anterior, medial and posterior walls of maxillary sinus. This approach gave the possibility to make total and fast mass excision. All patients had endoscopic examinations of nasopharyngeal cavity in early postoperative period in order to find tumor masses which are left and to prevent recidive risk.

POSSIBILITY OF THE EXTENDED RADICAL NECK DISSECTION ON ACCOUNT OF METASTASIS OF THE SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK.

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Introduction: Extended tumors of head and neck with regional metastasis is an urgent problem in head and neck oncology. Possibility of cure of this group of patients seems to be controversial, because of technical complexity of operation and poor prognosis.

Aim: to improve the results of treatment of patients with head and neck cancer with extensive regional metastasis.

Materials and methods: The research is based on the results of treatment of 36 patients with head and neck cancer, treated in Yaroslavl Oncological Head and Neck Center from 2004-2008, aged from 39 to 80, mean age 59,5 years old, males - 31 (86%), females - 5 (14%).

In primary tumor localization pharyngeal cancer prevailed: hypopharynx – 7 patients (19%), oropharynx – 6 (17%), nasopharynx – 1(3%). Oral cancer was also frequently observed: flour of the mouth – 5 patients (14%), tongue – 4 (11%). Laryngeal cancer occurred in 6 cases (17%). Carcinoma of the maxilla and mandible were in 3 (8%) и 4 (11%) cases accordingly. Squamous cell carcinoma of high differentiation prevailed - 76%.

All of the patients had extensive metastatic neck disease, corresponding N3. In addition to standard volume of radical neck dissection the adjacent anatomical structures, which were involved by tumor growth, were excised.

In the majority of the cases extension of the dissection was in wide resection of soft tissues of the neck with reconstruction of the defect with musculocutanious pectoralis major flap – 19 cases. 13 patients had intimate adhesion of metastases with carotid artery, that demanded in 6 cases carotid shifting. In 3 cases resection of a. carotis communis, in 4- a. carotis interna were performed. In one case autovenous reconstruction of common carotid artery was done. Hyoid bone was resected in 4 cases, thyroid gland – 7, parotid gland – 2, scalenius muscles – 7, brachial plexus – 5, n. vagus – 11, flour of the mouth – 7, temporal bone – 1.

Results. Wounds healed by primary intension in 25 patients (68%). There was no intraoperative mortality. Three years survival was 17 % (6 patients). A recurrence on the neck was in 23 patients (64%), which was mortal. The worth prognosis was in the cases of tumor invasion into scalenius muscles and common carotid artery.

Conclusion. It is possible to perform extended radical neck dissection in the cases of absence of tumor invasion into scalenius muscles and common carotid artery.

QUANTITATIVE HISTOLOGIC AND HISTOCHEMICAL RESEARCH OF REACTION OF THE MUCOS MEMBRANE GLANDS OF THE NOSE CAVITY AND MAXILLARY SINUS ON IRRIGATION OF SECRETOLYTICAL DRUGS.

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In the home and foreign literature the secretion of the mucous membrane of the nose and paranasal sinuses glands and the influence of simulation of the secretion has not studied. The drugs rizosin, otrivin (with menthol), sinuforte (ciclomenum european extract) posses the stimulating mechanism of the mucous membrane secretion. Sinuforte has been selected for studying as the drug having the most expressed effect. The experiment has been done on 8 rabbits of “Florida White” breed, with the body weight 1,5 – 2 kg. The material was exposed to histologic and histochemical research with use of the digital microscopy and the computer analysis methods of the images received. In sinuforte intranasal irrigation on the morphological signs of the expressed stimulation of the secretory activity of the mucous membrane glands of the nose cavity has been revealed. Increase of the secretion is heterogeuos and is also expressed to the greatest extent in the glands of lateral walls of the nasal cavity. The effect of the secretion stimulation with sinuforte is observed during 30 minutes after the irrigation. 1 or 3 hours after the irrigation of the drug the structure of the mucous membrane glands and the content components of the mucous in them reaches the intact condition. The morphological research has not revealed the mucous membrane damage.

THE ROLE OF TYMPANOMETRY IN TOPIC DIAGNOSIS OF HEARING LOSS.

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Objective: The study aims to demonstrate the clinical implementation and usefulness of tympanometry in diagnosis of hearing loss, focusing on the localization of the pathological process. The results elucidate the clinical diagnosis, contributing to build an adequate treatment and facilitating the evaluation of effectiveness in the follow-up period.

Materials: The clinical study was conducted in the Audiology Sector of the Department of Otorhinolaryngology, Medical University – Sofia, for a period of two years, comprising 714 ears of 379 patients. The patients were devided in 2 groups: 1. Pediatric - aged between two months and 18 years – 336 ears (47%), and 2. Adult – from 18 years old up to the age of 87 – 378 ears (53%).

Methods: The following equipment was used - impedancemeters (Siemens SD 30, Interacoustics AT 235 H); portable tympanometer (Welch-Allyn). For establishment of hearing impairment additional methods have been used - tonal audiometry, OAE, evoked response audiometry,. The results were assessed as: conductive, sensoneural and combined hearing loss.

Results: The results were interpreted according to the following criteria: admittance, Tympanometric Peak Pressure, peak amplitude, the volume of the ear canal, compliance (ml/cc), peak pressure (daPa), and the change in gradients (%). Patients with conductive hearing loss were divided in 4 groups: a) middle ear effusion – 179 children and 16 adults; b) Eustachian tube dysfunction – 32 children and 34 adults; c) ossicular chain adhesions – 18 children and 85 adults; d) tympanic membrane perforations – 48 children and 27 adults.

Conclusion: Based on the clinical results from the current study we could estimate the tympanometry as an objective and informative method for daily diagnosis of hearing loss.

THE SCIENTIFIC BASIS OF PHOTODYNAMIC THERAPY AND PHOTODIAGNOSIS

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Photodynamic therapy (PDT) uses non-toxic photosensitizers and harmless visible light in combination with oxygen to produce cytotoxic reactive oxygen species that kill malignant cells by apoptosis and/or necrosis, shut down the tumour microvasculature and stimulate the host immune system. On activation by light, the photosensitizer is raised into an excited state that can transfer its energy to molecular oxygen to generate reactive oxygen species (ROS), such as singlet oxygen, which is highly cytotoxic. The photosensitizers used in PDT also have the property that they fluoresce on exposure to light of the correct wavelength. This presentation will examine some of the factors that contribute to this effect so that we gain a better understanding of the process and improve clinical outcome.

THE ELABORATION OF THE EXPRESS-DIAGNOSTICS METHOD OF ASPIRIN INTOLERANCE

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The purpose of the research was the elaboration of the express-diagnostics method of the aspirin intolerance, which the patients with the diagnosis of the aspirin triad (the Widal's syndrome) have, estimation of the usage chances of the aspirin dissolving form, investigation of the quick-dissolving film form as an aspirin carrier for the endonasal test, estimation of the diagnostic aspirin concentrations in the dissolving films.

Materials and methods. Two groups of patients were studied. Group 1: 12 patients, 5 men and 7 women in the age from 27 till 66 years old, who have the aspirin susceptibility, which declares itself in the bronchial asthma attack with the concomitant recurring nasal polyposis, group 2: (control) 8 patients, who don't have acetylsalicylic acid susceptibility, 5 men and three women, in the age from 26 till 70 years old with the manifestations of the bronchial obstruction and the nasal polyposis. The nasal provocation tests were carried-out

with the help of the quick-dissolving polymer films with the inclusion of the lysine-aspirin in the different concentration (3%-6%). The state of the mucous tunic - colour, edematousy, and signs of the irritation - pruritus, sneezing, mucus discharge, lacrimation were being determined. The next indexes were determined: 0-there are no symptoms; 1- symptoms without the local manifestations; 2 – symptoms and the local signs; 3 – the common reactions.

Results. Group 1. The films with the concentration of 3% brought on the two persons' local signs – the hyperemia and the slight edema of the mucous tunic of the nasal cavity. The films with the lysine-aspirin concentration of 6% brought on all the patients' different local symptoms. There were no common reactions on the insertion of the films with the lysine-aspirin. Group 2. The films with the lysine-aspirin concentration of 3% didn't bring on any symptoms. Two patients complained on the pruritus in the nasal cavity after the insertion of the film with the lysine-aspirin concentration of 6%. The clinical signs were not detected.

Conclusions. The nasal provocation test with the lysine-aspirin in the polymer quick-dissolving film allows to divide the patients with the acetylsalicylic acid susceptibility from the patients, who have the respiratory tract pathology, which is not connected with this hyper susceptibility, with a considerable degree of trustworthiness, the local manifestations of this intolerance as irritation symptoms of the nasal cavity mucous tunic are trustworthy, fixed by the researchers easily, the usage of the films of 6 mg. is the most expedient, as this dosage is quite sufficient for the clinical manifestations of the intolerance on one hand and absence of the general severe reaction – on another one.

THE TOPOGRAPHICAL FEATURES OF THE STYLOID PROCESS IN HUMAN FETUSES

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The early fetal period is very interesting part of human ontogenesis from the morphological point of view. By this moment the organogenesis is on the whole completed and followed by further formation of the topographic correlation of organs and structures.

To assess the variations of the size and position of the styloid process of temporal bone (SPTB) in prenatal period we have analyzed the postmortem data of 22 miscarried human fetuses (male and female) at the age from 18 to 25 weeks. The topography of SPTB was studied by means of preparation (Patent of Russian Federation 64896 from 12.03.07.) under the stereomicroscope and in a series of histotopograms of celloidin embedded material. We evaluated following aspects: the length of SPTB, the thickness of it's basal, middle and apical segments, the degree of it's mediolateral and anteroposterior angling.

The length of the SPTB varied from 9 to 20 mm that correlates with the dimensions of the body. The average thickness in the middle segment was 0,99 ± 0,02 mm for the right and 1,04 ± 0,05 mm for the left in male fetuses and 1,01 ± 0,02 and 1,14 ±0,1 mm female respectively. The mediolateral angling was more pronounced in female (55,8 ±1,0º for the right and 58,1 ±1,8º for the left) than in male fetuses (54,1 ± 2,0º for both sides, $p<0,05$).

The more pronounced mediolateral angling of the SPTB in female fetuses may be one of anatomic prerequisites for the prevalence of women among the patients with the stylohyoid syndrome.

IMPROVEMENT OF THE VENTILATION OF THE MIDDLE EAR BY LASERABLATION OF EUSTACHIAN TUBE – A PROSPECTIVE STUDY

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Introduction: Nearly all chronic-inflammatory diseases of the middle ear take their origin in the long-termed dysfunction of the Eustachian Tube. This delicate structure connects pneumatised space of the middle ear with the nasopharynx. The immobile part of the tube spans the bony channel of the petrous bone including the anatomical tight isthmus. The nasopharyngeal part contains connective tissue, cartilage and muscles which are responsible for the mobility of the tube. The lumen is lined with folded and cilia-contained respiratory epithelium, including numerous goblet cells. In the relaxed position the lumen is sealed by the negative pressure of the tissue, the opening occurs by swallowing, yawning and sneezing. The only muscle that opens the tube is M. tensor veli palatini. The Eustachian Tube has three main assignments – ventilation of the middle ear, drainage of secretions and protection of tympanum.

The disruptions of the Eustachian tube can be classified into dysfunctions of opening and closing. Sade et. al. described 1967 that the origin of failure of the tube function isn't a mechanical one. The genesis of otitis media chronica mesotympanalis and epitympanalis rest largely upon chronic tube dysfunction. The correlative radiological report shows less pneumatised petrous bone as the result of ventilation disturbance. Secretory otitis media implies conglomeration of serous or mucous secretion in the middle ear. The main reason for this disorder is discussed to be the dysfunction of the Eustachian tube (ETD).

Numerous patients suffer from ETD even without clinical signs, especially by rapidly changing environment pressure either job-related (i.e. construction) or while leisure (i.e. flying or bungee). Most of them feel themselves limited compared to others, especially of the lack of treatment. Insertion of grommets was the only possible therapy; the cause of the dysfunction isn't affected, though. Interventions of the tube weren't successful because of the complicated position of the structure. Kujawski et al. did pioneer work by the laser ablation of the epipharyngeal orifice of the Eustachian tube by SOM and AHP in 2004. The positive outcome of a long-term study was located by 60%. The subject of our prospective clinical trial is the improvement of the ETD by the laser ablation of hyperplastic tissue of dorsal aspect of the Eustachian tube in TDF, SOM and AHP.

Furthermore we applied the procedure in the OMC before tympanoplasty to improve the outcome of the middle ear intervention.

Material and Methods. During our prospective trial 38 patients were treated, 19 with OM mesotympanalis, 14 with ETD, 3 with a resistant secretory OM and 2 with adhesive process (middle ear athelectasis). Gender distribution: 22 female and 16 male. The age median is 44.7 a, with a range of 55. We retrieved full medical history of the disease, under exclusion of patients with allergy and gastroesophageal reflux. Afterwards we performed an audiogram, tympanogram and Valsalva-maneuver on patients with intact eardrum (secretory OM, CTD, AHP) and audiogram, passive opening of the Eustachian tube combined with Valsalva-maneuver on patients with an eardrum perforation (OMC).

In case of pathological test results we performed by all patients transnasal fiber-supported laserablation of dorsal circumference of Eustachian tube combined with laser cauterization of the middle and lower turbine under video supervision. (Diode laser 812 nm, Lumenis, Germany). Patients with ETD were recruited for the intervention after one long-termed disease course (Ear pain during landing, insufficient pressure adaptation while diving).

For the anesthesia and decongestion Tetracaine and Naphazolin were applicated 20 minutes before treatment. In addition we applied Xylocaine to the epipharynx. All of the interventions were performed in supine position under video supervision. Patients with OMC received a follow-up tympanoplasty in adequate therapy time-frame. All of patients were supervised 8 weeks after the intervention with video assisted endoscopy of epipharynx combined with mentioned tests of the tube function.

After a year we supervised the patients in the same manner. The results were collected via SPSS and evaluated with McNemar-Test for combined samples (p=0,001). The morphological situation of the tube orifice was documented by video endoscopy.

Results: We could enclose 22 women and 16 men into the study (n=38). Improvement of the Valsalva-maneuver was found by 26 patients (63.4 %) 8 weeks after the procedure.

Patients with OMC showed enhancement of Valsalva in 73.7 % of cases, accompanied by bettering of passive tube opening by pressure in 52.6%. The group of patients with intact ear drum displayed an amendment of Valsalva-maneuver in 12 of 19 cases, accompanied by enhancement of the tympanogram in 6 of 19 cases. Eight out of 14 Patients with CTD showed negative Valsalva-maneuver before the treatment, merely 5 out of 14 afterwards. All of the patients showed a mass reduction of the dorsal tube bulge with a decent superficial scar tissue in a video-assisted follow-up. Patients with large orifice of the epipharyngeal tube before intervention presented merely slight change of the structure.

With the 30°-endoscope visible segment of the mobile fragment of the tube remained open during the swallowing act. Patients with tight ostium which resulted either from tangency of dorsal and ventral parts of Eustachian tube or tubar tonsil or adenoid tissue demonstrated relative dilatation compared to the previous findings. Furthermore the appearance of the mobile fragment of the tube was more amenable for the endoscope.

We couldn’t report any complications, neither synechia of ventral and dorsal tube circumference nor appearance of open tube. Merely one of the cases showed a synechia of dorsal tube circumference with adjacent epipharyngeal tissue. In another follow-up of one year we could recruit 20 patients for the evaluation. 15 of them showed constant positive Valsalva-maneuver (75%), (p=0,001). The results corresponded with personal improvement of the well-being of the patients. This picture shows Eustachian Tube in endoscopy before and after treatment in a patient with Eustachian Tube dysfunction:

Discussion: The described procedure seems to be primarily indicated in patients planned for revision tympanoplasty. In numerous cases the underlying chronic ventilation disorder of the middle ear with tympanic perforations or atelectasis could be causally treated. Also patients with a refractory SOM can profit by avoiding ventilation tube insertion.

Another indication could be found in therapy of recurrent TDF by rapid changing of the ambient pressure, i.e. flying or diving. The Valsalva-maneuver was improved in 9 of 14 cases (64,2 %) and pressure equlibration was possible during flying or scuba diving.

Long-term supervision showed steadiness of the results. The Valsalva-maneuver remained positive in 15 of 20 cases (75%) one year after the procedure. The collective included eleven patients with a tympanoplasty after OMC, with 4 revisions among, seven patients with TDF and one SOM and adhesive process.

The present examination shows that in two thirds of cases a well directed laser ablation of the dorsal tube bulge improves the function of the Eustachian tube, which has direct effect on the ventilation of the middle ear. The procedure can be performed in adults in local anesthesia combined with a turbine cautherization or ablation of spurs of nasal septum. Patients requiring tympanoplasty or long-lasting grommets can achieve sufficient therapy by the intervention. Patients with recurrent TDF during rapid changes of ambient pressure would regain the possibility of middle ear pressure equilibration after tissue reduction of the dorsal circumference of the tube.

METHOD OF EFFICIENCY ESTIMATION OF BRONCHO-ALVEOLAR PROTECTIVE COMPLEX APPLICATION AT TREATMENT FOR ACUTE PURULENT SINUSITIS UNDER EXPERIMENTAL CONDITIONS

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Inflammatory process in maxillary sinuses results in decrease of surface activity of ciliated epithelium and promotes increasing of its sorption properties. This, in turn, results in increase of damage depth of the mucous membrane.

The purpose of our research is to prove application of modified Pattle's method for an efficiency estimation of local treatment for acute purulent maxillary sinusitis at rabbits with the broncho-alveolar protective complex (BAPC) in conditions of experiment by means of studying changes of surface activity in the discharge from maxillary sinuses.

Modification of Pattle's method consists in observation of size and quantity dynamics of gas bubbes in rinsing from rabbit's maxillary sinuses within ten minutes from the moment of foaming the rinsing. Changes of dynamics expressed by Pattle's stability index (SI).

First surface activity of rinsings from maxillary sinuses at 20 healthy rabbits was investigated. SI has made 0.99 in average.

In laboratory conditions acute purulent sinusitis at 20 rabbits was simulated by semination the maxillary sinuses with S. aureus. The beginning of disease was determined on the moment of appearing the purulent discharge from maxillary sinuses. SI reacted on the beginning of a purulent inflammation with decrease to 0.64.

The next therapy was administered: 2 ml of a surfactant preparation (BAPC) were entered daily, intrasinusaly, in the chosen concentrations: 0.5 % in the first group (10 animals) and 1.0 % - in the second (10 animals).

On the fifth day of treatment SI in first group has made 0.79, in the second - 0.85. On the tenth day of treatment SI has increased up to 0.96 at animals of the first group, in the second group SI has made 0.97. It testifies to normalization of surface activity that allows to judge improvement of maxillary sinuses mucociliary apparatus work.

Thus, the offered method allows to estimate dynamics of surface activity of mucociliary system in rabbits' maxillary sinuses during treatment for acute purulent inflammation by a surfactant preparation.

THE ROLE OF OLFACTORY FUNCTION AT RHINOLOGIC PATHOLOGY.

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Olfactory function (OF) is the complex physiological mechanism which realization in many respects is defined by optimum mutual relations of anatomic structures of nasal cavity, balanced by activity of all levels of the olfactory analyzer, trigeminal nerve, vegetative nervous system and olfactory centers.

Various variants of subjective olfactometry are widely applied to research of the olfactory function. They are subdivided on qualitative and quantitative.

The first group of techniques is based on answers of surveyed about presence of olfactory sensations and character of a perceived smell. Various combinations of the odorous substances are usually used for this purpose: olfactory (tincture of valerian, vanillin, beer honey, etc.), mixed: olfactory-trigeminal-pharyngeal (menthol, ethyl spirit, etc.), olfactory-gloss-pharyngeal (iodophorm, 5% solution of acetic acid, etc.), olfactory-gloss-trigeminal-pharyngeal (20% solution of acetic acid).

The second group of methods of olfactory function research provides definition of quantitative characteristics - thresholds of perception and identification of smells, thresholds on parameters - by means of special devices - olfactometers. Portable and simple on design olfactometer is created. In this olfactometer the syringe pulse or continuous submission of air is carried out. And by means of an original fuse-crane it is possible to define not only thresholds of sense of smell, but also to estimate time of return adaptation of the olfactory analyzer. High sensitivity of the device which in 5-6 times exceeds corresponding characteristics of existing olfactometers is emphasized.

For the quick quantitative estimation of the OF the encapsulated odorous substances and questionnaires on sensations are used - the olfactory test of Pelsilvania university. Authors mark the high reliability of results of such testing. However clinical usage of the listed methods is essentially limited based on absence of the standard devices, insufficient comparability of results of researches. In this connection the variant “olfactometry without olfactometer” is more widespread. According to this method the increasing concentrations of odorous substance of various receptial orientations are used. The concentration of substance at which a patient feels the smell is concedered as a threshold of sense of smell, and the concentration of substance at which the smell is recognized is a threshold of identification. With the same purpose, the increasing concentration of butanol (a definition of a threshold of perception) and sets of substances with smells of usual subjects (an estimation of a threshold of identification) are used.

The increase of accuracy of researches of OF is based on introduction of method of objective olfactometry in clinical practice. It is important to notice the influence of olfactory stimulus on bioelectric activity of brain, occurrence of pupilliary and blinking reflexes and other parameters. The value of biopsy and electronic-microscopic research of olfactory epithelium at unosmium is emphasized.

The systematization of olfactory function disturbances depending on the reason and a level of damage allows to differentiate disosmium, such as: respiratory (based on air flow infringement in the olfactory area); combined (the presence of ventilating disturbance and damage of mucous membrane in olfactory area); neural (the damage of filia olfactoriae of neuroepithelium); central (the pathology of spending ways and/or the centers) forms of olfactory dysfunction.

The most frequent reasons of olfactory dysfunction which is registered at 1% of population are the diseases of nose and paranasal sinuses, the consequences of virus infection of upper air ways and craniocereberal trauma.

The olfactory dysfunction quit often associates with endocrine diseases, changes of hearing, paresis of VIII pair of craniocereberal nerves. The big role in genesis of posttraumatic hypo- and unosmium is belongs to damages of olfactory strings, an olfactory nerve and centers, intracranial hemorrhages.

The reason of olfactory disturbance is the change of olfactory epithelium. In case of irradiation of mucous membrane of olfactory zone in occasion of tumour of a hypophysis the expressed oppression of OF is observed.

The anatomic changes of olfactory area of nasal cavity influence on condition of olfactory function. Often these changes due to nasal septum condition, in case of its deviation the olfactory disturbance are registered at 83% of patients.

The various deformations of olfactory crack due to nasal septum deviation and dislocation of lateral wall of nose are found in more than a third (37,8%) of patients with trauma of a nose. More often the olfactory dysfunction was registered at rhinoscoliosis and combined traumas of external nose and did not depend on localization of damage. The important aspect of olfactory research in functional-cosmetic rhinosurgery is the diagnostic of postoperative disturbance of OF. In most cases it is a question of temporary depression of smell perception caused by jet changes of mucous membrane of olfactory zone, approximately at third of patients which are stopped within several weeks. However there are some cases of postoperative unosmium which reason is not established now completely.

Thus, the significant role of various changes of nasal cavity structure in formation of olfactory dysfunction and widespread olfactory changes at various diseases of nose and sinuses define an actuality of olfactometric researches in preoperative examination of patients with traumatic diseases of nose.

TREATMENT TACTICS OF PENETRATING INJURIES OF NECK ORGANS.

Inara M.Bagirova

Objective: Proving the efficiency of reconstructive operations on cervical parts of respiratory and digestive organs.

Methods: We treated 48 patients with acute traumatic damages to respiratory and digestive organs (39 adults up to 77 years (81.25%) and 9 children (18.75%)). Patients were admitted within first hours after trauma in 43.8% of cases, 16.2% -within first day and 40% cases - later (with cervical phlegmona, mediastinitis and pleural empyema). 22patients were admitted in grave condition with cervical phlegmona and mediastinitis (18 patients) and complete transsection of trachea and esophagus (4 patients). Damages to trachea (larynx) took place in 47.3% cases, to esophagus (pharynx) in 40%, to digestive and respiratory organs concurrently in 12.7% cases.

In 11 cases out of 26 damages to esophagus and pharynx the operation envisaged multiple drainage of cervix and mediastinum (42,3%) and suturing the wound in 12 cases (46,2%). In 3 patients (11,5%) we performed circumferencial esophagopharyngeal anastomosis. In cases of trauma to respiratory organs (26) the defect was sutured lengthwise (17, 65,4%), tracheocricothyroideus anastomosis (4, 15,4%) was performed or prolonged tracheal tube placement with drainage was used (5, 19,2%).

Results: Adequate abscess drainage, repair of injury, local lavage and appropriate antibacterial therapy have eliminated complications in all patients with complete restoration of function. No mortality

Conclusions: Primary repair with anastomosis is the treatment of choice in penetrating injuries, extensive and circumferential ruptures of the trachea and larynx

Surgical treatment of injuries of the esophagus and pharynx should be individualized and directed towards reconstruction of organs

MUCOCILIARY CLEARANCE (MCC) IN PATIENTS WITH CHRONIC HYPERTROPHIC RHINITIS (CHR) BEFORE AND AFTER PARTIAL INFERIOR TURBINECTOMY (PIT).

Turusov D. A.

Nasal MCC is the first upper airway defense mechanism.

Patients with CHR principally require surgery since they suffer from chronic nasal obstruction due to hypertrophy of inferior turbinate.

The aim of our study was to assess MCC parameters in patients with CHR who underwent PIT. We used two characteristic to evaluate MCC: sacharine transit time (STT) and ciliary beat frequency (CBF) of the inferior turbinate (IT) epithelium.

This study included 26 patients with CHR. The age of patients varied from 23 to 54 years. We followed up these patients for 2 month after surgery.

Each patient underwent endoscopic examination before and after surgery.

To assess MCC of IT epithelium we used sacharine test which was performed according to well-known technique, and CBF. IT mucosa examples were obtained using brush-biopsy followed by dark-field light microscopy (x400). All these parameters were compared to such in healthy volounteers, who resulted 7-16min. in STT and 7-11Hz in CBF.

RESULTS: 22 patients before PIT showed reduced CBF (3-6Hz). The result in 4 patients was 7Hz. STT valued from 19 to 47 min. 14 days after surgery CBF and STT were 4-7Hz and 18-39min., respectively. Seven weeks after, the endoscopic examination showed complete recovery of nasal mucosa in all patients. STT in 23 patients was 15-29min. Three patients resulted in 31min. In 23 patients CBF increased to 9Hz. Three individuals showed no difference in CBF before and after surgery.

This study showed an impaired mucociliary activity in patients with CHR. Furthermore, clinical and functional recovery of nasal mucosa occurs in 7-8 weeks after PIT. The efficiacy criteria of PIT should include not only nasal obstruction removal, but functional status of nasal mucosa.

OUR EXPERIENCE OF EARLY SCREENING DIAGNOSTICS OF HEARING INFRINGEMENT IN NEWBORNS

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Hearing infringement are frequent congenital anomalies whom 2–4 cases on 1000 newborns meet frequency, thus the part of sensoneural hypoacusis makes approximately 70-74 %. If the child with hearing infringements receive adequate sound amplification aged till 6 months his speech development will not differ from the contemporaries who do not have of hearing pathology. It causes an urgency of early diagnostics of hypoacusis.

All over the world there is a problem of timely revealing of congenital hypoacusis. The most effective system of screening assumes at the first stage registration of otoacoustic emission (OAE) which elicits the fact of a deviation of hearing from normal. In the absence of reaction within a month repeated research.

If the hearing pathology is not excluded, in three months to the child are spent the complete course of the inspections including registration of tympanometry and auditory brain response (ABR). After carrying out of researches the question on a choice of treatment of the child is solved.

In Otorhinolaryngology clinic of Dnepropetrovsk medical academy screening of newborns is spent since 2007. For the specified period we examined 572 newborns. In 21 children at carrying out of the OAE the negative result has been received. At their repeated research with use of registration of the (ABR) we have revealed 2 children with sensoneural deafness to whom cochlear implantation at the age of 1 year has been made. In two children it has been revealed sensoneural hypoacusis of II degree and in this connection patients were sent on hearing prosthetics by means of hearing aids. In 5 children the hearing infringements were not revealed.

Thus, early revealing of a hearing disorders in newborns with the aid of registration OAE promotes timely carrying out of corresponding treatment, that reduces influence of sensoneural hypoacusis on speech and intellectual development of a child.

INTRA- AND POSTOPERATIVE HEMORRHAGE PREVENTION IN TONSILLECTOMY.

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Tonsillectomy is one of the most frequent interventions in ENT practice. Bleeding is one of the most frequent and dangerous complications at this kind of surgical intervention. According to many authors, the risk of massive blood loss lower the classical way of tonsillectomy under local anesthesia.

For research conditions standartisating and statistical processing of received data, we applied hemostatic glue ”Hemocompact” and fibrinocollageneous plate “Tachocomb” only on one of the tonsillar fossa of operated patients. Hemorrhage in second fossa was arrested in classical way (with a help of gauze balles impridnated with 96% spirit and gauze balls impridnated with Sol. Acc. Aminocapronici). During this research 23 persons (15 male and 8 female) in age from 16 to 25 were operated. We compared hemostasis time difference in fossa where local hemostatic (“Hemocompact” or “Tahocomb”) was applied and in tonsillar fossa, where hemorrhage was arrested by classical way. The bleeding in tonsillar fossa where we used “Hemocompact” or “Tahocomb” arrested in 5-7 mines after tonsillectomy at 17 patients, while from other fossa (where we used classical method) we observed hemorrhagic secrete within 1-2 hours after operation. 5 patients didn’t have a difference in time of hemostasis in both fossae (the bleeding has been arrested from both sides during 10 mines after tonsillectomy). In spite of local haemostatic application a massive bleeding developed in one case, were have had to use vessels ligation.

The first results we received testify that local hemostatics application can be successfully used during tonsillectomy. In further, it is planned to lead the comparative analysis of this two local hemostatics effect.

SURGICAL TREATMENT OF THE NEOPLASIA OF THE NASAL SKIN

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Clinical prevalance :In Russia the incidence of skin malignancies occupies the third place among all malignancies.30% of reported cases of facial maligancies are those of nasal skin malignancies(Paches A.E,2000).Treatment and control inorder to improve the condition is still a vital issue of extreme concern since dissatisfactory remedy gives rise to a massive cosmatic defect in the central zones of the face and this affects the patient psychologically.The quality of life of the patient is therefore significantly reduced and social life gradually becomes non- existant as the patient becomes a social recluse.

Presently there are a variety of methods of treatment available for skin malignancies.the fact that 50%of the frame of the exterior nose consists of cartilage restricts the usage of all methods available treatment of the neoplasia of the tip of the nose and the alae, owing to the fear of destroying the underlying cartilage(radiation therapy,cryodestruction ,laser destruction).In the mentioned cases only the surgical approaches are recommended.

The question of the best approach of mending the cosmetic defect arises in cases where there is seen spreading of the nasal skin malignancy.

Goal of study: the study is done to probe into methods of improvement of oncological,functional and esthetical aspects of the outcome of the treatment of bening and malignant tumors of the nasal skin.

Objective of the study:to

1.Evaluate the oncological and surgical results of the surgical treatment of the nasal skin malignancies.

2.The choice of the best method of treatment depends on localization and size of the tumour.

3.proove that the surgical treatment is the best approach ,on the basis of using different surgical methods such as Free loscut and transplant of the skin.

Methods and Materials: in our study was used 120 patients suffering from bening and malignant nasal skin tumours(male 43,female-77).for all the cases surgical treatment involving removal of the tumour and cosmetic closure of the defect was used.patients were mostly of the age group 60-70 years.

The histology of the removed tumours highlight malignancy in 102 patients and bening in 18 cases.

In 81 cases basal cell cancer was highlighted where as 18 cases showed flat cell cancer with varied levels of cellular differentiation.In 3 cases melanoma was determined.Depending on the level of spread (index of T)of the tumours patients were divided into groups:

T1-49

T2-27

T3-12

T4-14

15 patients were treated with rentenogen therapy for recurrent or continuous growth of tumours prior to surgical treatment.

5 patients underwent surgical treatment earlier.

6 patients underwent laser destruction of tumours earlier.

All patients ,upon removal of tumours,required to undergo plastic manuver with following types of loscuts (grafts).

51 required sliding skin- adipose loscut

47 required rotation skin-adiose loscut.
5 required free full layered loscut
4 required divided loscut.
8 required skin √cartilage loscut.
5 required combined loscut.

Results:

In 114 0f 120 patients prompt healing of the wound was observed which accounts for 95%.

In group of patients with malignant skin tumours, frequency of recurrance and continuous growth during time of obsevance that lasted from 1 to 5 years was 2.9%.

Conclusion:

1. Surgical treatment of malignant neoplasia of the nasal skin showed good functional and oncological results.the frequency of continuous growth and recurranc of nasal skin tumours after surgical treatment during period of observation that lasted rom 1 to 5 years was 2.9%.wound healing was observed to be prompt in 95% of the cases.

2. The best approach to treating the spreading tumours of the upper parts of the nose was surgical approach(plastic surgery) with rotation skin loscut utilising skin of the forehead.For regions involving the tip of the nose and alae the method of rotation skin-adipose loscut was applied whereby the cheek-nose fold was used.

3. The most effective way of treatment for benign or malignant tumours of the nasal skin is by the usage of different ways of plastic surgery .

THE ROLE OF GASTROESOPHAGEAL REFLUX DISEASE IN THE PROGRESS OF CHRONIC PHARYNGITIS.

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The Head of ENT Dept. – Professor A.S. Zhuravlev.

Gastroesophageal reflux disease (GERD) has more often been given consideration in the wide spectrum of etiological factors in the development of chronic pharyngitis.

GERD should be understood as a spectrum of clinical impairments resulting from a retrograde reflux of the gastro-duodenal contents into the esophagus, when the relaxation rate of the lower esophageal sphincter increases.

For the purpose of studying the character of pathological changes in the mucosa of pharynx, we have examined 140 patients with clinically founded manifestations of GERD, backed up with typical complaints (heartburn, eructation, dysphagy). All the patients underwent endoscopic investigations of oral –and nasopharynx, and 110 of them had esophagogastroscopy.

During the esophagogastroduodenoscopy we revealed alterations, which enabled us to form 2 groups of patients, with 48 (44%) observed in the first group with reflux-esophagitis and with 62 (56%) observed in the second group without the lesion of gullet.

We visualized in the 1 group pathological changes of mucous of oral pharynx in 40% with mainly hyperplastic processes of solitary follicles of posterolateral sides. There were diagnosed the signs of chronic catarrhal inflammation of mucosa in 15% of the patients and the other 45% had no obvious visible changes.

In the second group there was noticed a more intense character of complaints, symptomatic for GERD as well as chronic pharyngitis, followed by unnoticeable endoscopic

and macroscopic unconfirmed changes in the mucosa of the esophagus. Evident symptomatic changes characteristic of granulose pharyngitis patients were found in 58% of patients, 7% of the observed had changes characteristic of catarrhal pharyngitis –and the other 35% had not pathology in oral pharynx.

Both groups of patients (28-34%) revealed chronic pharyngitis combined with chronic tonsillitis.

Thus, we obtained correlated data indicating at the significant part of gastroesophageal reflux disease in the development and progression of the signs characteristic of the chronic disease of pharynx.

THE ANALYSIS OF TREATMENT STANDARDS IN EAR SURGERY

Yu. Rochshektayeva
Russian Medical Academy of Postgraduate Education

Although the basic principles of ear surgery have already been accepted, there is no scientific evidence on the outcome parameters of the techniques of operations. A lot of trends on this question are described in the literature, however, in daily work practicing doctor has got used to rely on own knowledge and experience.

The range of preoperative diagnostic procedures varies and frequently depends on personal preferences of a doctor. In this connection it is extremely difficult to create uniform groups and compare the efficiency of operations performed by different surgical approaches. We made the analysis of opinion among domestic otorhinolaryngologist on the basic questions of preoperative diagnostics, usage of different types of grafts and prostheses by means of a questionnaire. Also we compared the results with the similar survey spent in Europe.

Distinctions in opinions of the specialists were traced during discussion of questions concerning the choice of graft for Miringoplasty and Tympanoplasty, amount of preoperative diagnostics, postoperative care of the patients and terms of control of bone conduction.

Making statistical analysis of the survey results we revealed main points of controversy among otologists, which were caused first of all by the lack of technical equipment, and of course, by the difference in professional knowledge level of the surgeons. In our work the basic results of the given comparative analysis are stated. We hope that this analysis will contribute to standardize concepts in otology to facilitate a safe, efficient, and effective standard of care for our patients.

МЕЖРЕГИОНАЛЬНАЯ НАУЧНО-ПРАКТИЧЕСКАЯ КОНФЕРЕНЦИЯ ОТОРИНОЛАРИНГОЛОГОВ «АКТУАЛЬНЫЕ ПРОБЛЕМЫ СОВРЕМЕННОЙ ОТОРИНОЛАРИНГОЛОГИИ»

5-6 ИЮНЯ, 2008
БЛАГОВЕЩЕНСК

В начале июня 2008 года в Благовещенске состоялась ежегодная межрегиональная научно-практическая конференция по различным проблемам современной оториноларингологии. В течение двух дней участники конференции из различных регионов Российской Федерации представили свои доклады. В заседаниях приняли участие представители Благовещенска, Владивостока, Красноярска, Москвы, Нерюнгри, Санкт-Петербурга, Хабаровска, Читы.

Сопредседателями конференции были профессор А.А.Блоцкий, д.м.н. С.А.Карпищенко, д.м.н. М.А.Рябова.

Активные дискуссии и отклик вызвали проблемы кохлеарной имплантации, эндоскопической ринохирургии, фотодинамической терапии папилломатоза гортани, фиброларингоскопического исследования и др.

Очевидно, что с каждым годом форум приковывает все большее внимание отоларингологов. Высокий уровень организации официальных мероприятий и культурной программы убедительно показывает настрой организаторов на дальнейшее активное развитие специальности с привлечением отечественных и зарубежных ресурсов.

Творчески и неординарно построенная культурная программа позволила гостям Благовещенка познакомиться с достопримечательностями и известными людьми города и региона. По окончании официальных мероприятий конференции была организована туристическая поездка в Китайскую Народную Республику с посещением городов Хэйхе, Харбин и столицы Олимпиады 2008 - Пекина. Неизгладимое впечатление оставили экскурсии к Великой Китайской стене, в Запретный город и к Храму Неба. Современный Пекин во всей красе представил Олимпийскую деревню и стадион «Гнездо». Мы все получили возможность прикоснуться к живым древним ремеслам: шелковому производству, перепончатой эмали, нефритовым и жемчужным промыслам. Разумеется, особый интерес вызвало знакомство с Китайской медициной.

Хочется надеяться, что ничто не помешает проведению конференции в следующем 2009 году, а заряд энтузиазма, полученный на уже прошедшей, будет только способствовать организаторам, а гостям в подготовке новых интересных докладов и лекций.

Участники научно-практической конференции по оториноларингологии, Благовещенск 2008

В мастерской художника А.Е.Тихомирова

Участники конференции на самой большой в мире площади Тянь Ань Мень, перед Императорским дворцом

JUBILEE

7 октября в Центральном Доме Ученых состоялась научная конференция, посвященная 20-летнему юбилею Российского научно-практического Центра аудиологии и слухопротезирования и 60-летию директора и основателя Центра профессора Георгия Абеловича Тавартkиладзе.

Мы принимали поздравления правительства Российской Федерации, министерств и ведомств, Российской Академии наук и Российской академии Медицинских наук, общественных организаций, наших коллег и друзей.

В конференции приняли участие более 300 участников из всех регионов Российской Федерации, Великобритании, Италии, Швейцарии, Дании, Польши, Бельгии, Нидерландов, Германии, Казахстана, Армении, Украины, Грузии.

Научная программа была представлена следующими докладами лидеров соответствующих научных направлений:

12:00 Г.А.Тавартkиладзе *Современное состояние и перспективы развития экспериментальной и клинической аудиологии*

12:30 Дэвид Кэмп *Прогресс в понимании функционирования улитки и отоакустической эмиссии*

13:00 Грэм Кларк, Ричард Брук *История и прогресс кохлеарной имплантации*

13:30 Фердинандо Грандори *30-летняя история изучения слуха: от научных исследований и технологий до клинических протоколов*

14:00 А.А.Потапов *Фундаментальные* и прикладные аспекты нейрохирургии

Председатель Российского Детского фонда, известный писатель А.А. Лиханов вручил профессору Г.А. Тавартkиладзе орден Благоверного царевича Дмитрия "За дела милосердия". Орден Благоверного Царевича Димитрия "За дела милосердия" является наградой Патриарха Московского и всея Руси. Им награждаются лица, внёсшие особо большой вклад в дело попечения и защиты страждущих детей: детей-инвалидов, детей-сирот, беспризорников - всех детей, которые нуждаются в попечении.

Поздравляем Георгия Абеловича с высокой наградой.

Юбиляру профессору Э.А. Цветкову – 70 лет

Наступил возраст наиболее взвешенных и
здравых решений и больших перспектив на будущее.

Эдуард Анатольевич родился в Ленинграде 16 августа 1938 года. Здесь получил среднее и высшее образование, и, как успешно закончивший в 1963 году 1 Медицинский институт им. акад. И.П. Павлова, был распределён на работу в систему 3-го Главного Управления в МСЧ-32 Белоярской атомной электростанции, где проработал лор-врачом до 1966 года.

С 1966 года Эдуард Анатольевич клинический ординатор, а затем аспирант кафедры лор-отдела НИИ онкологии им. И.П. Петрова. В 1972 году защитил кандидатскую диссертацию на тему «Особенности клинического течения рака гортани у женщин».

С 1974 года Э.А. Цветков ассистент, а с 1984 года – доцент кафедры лор-болезней ЛПМИ. Основной областью его практических и научных интересов была врождённая и приобретённая патология гортани, воспалительные, опухолевидные и онкологические заболевания её у детей и у взрослых. Глубокое изучение проблем детской ларингологии, прогрессивное совершенствование методов диагностики, инструментария, способов лечения завершились защитой в 1990 году докторской диссертации на тему: «Восстановительная хирургия гортани и шейного отдела трахеи у детей».

С 1993 года Эдуард Анатольевич – заведующий кафедрой оториноларингологии ЛПМИ и с 2000 года – Главный детский оториноларинголог-сурдолог Комитета по Здравоохранению при правительстве г. Санкт-Петербурга. Круг его лечебно-практических интересов в значительной степени расширяется, кафедра под его руководством практически становится одним из ведущих центров страны по

реабилитации ЛОР-органов при врождённой и приобретённой патологии у детей, по оптимизации методов их хирургического лечения в возрастном аспекте с углублением поисков и исследований при патологии гортани, органа слуха и лимфаденоидной системы глотки. Положительные результаты лечения, опирающиеся на новые разработки и изобретения, способствовали созданию школы учеников – аспирантов, диссертантов, стажёров ФУВа, слушателей ФПК.

По материалам своих исследований и научно-практической работы Э.А. Цветковым опубликовано свыше 196 работ, 3 монографии, оформлено 7 изобретений. Под его руководством подготовлено до 40 кандидатских диссертаций и 2 докторские.

Вместе с тем, Эдуарда Анатольевича характеризует высокая активность как педагога высшей школы. В течение ряда лет он работал в деканате института, в 1992-1994 гг. ответственно, инициативно выполнял функции проректора по учебной работе. Он также требователен и принципиален в работе Комиссии по присвоению специалистам врачебных категорий, а также в оценке качества результатов диссертационных исследований, представляемых на защиту.

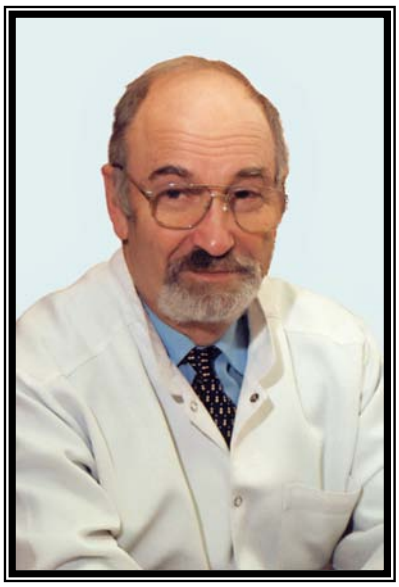
Эдуард Анатольевич является членом бюро Межведомственного Научного Совета по оториноларингологии Минздрава РФ, председателем проблемной комиссии при МЗ России, членом редакционного совета журналов «Российская оториноларингология», «Вестник оториноларингологии», «Folia Otorhynolaryngologia», академиком «Международной академии – Хирургия головы и шеи».

За заслуги в здравоохранении Эдуард Анатольевич удостоен почётного звания «Заслуженный врач РФ» и премии «Золотой рефлектор» общества ЛОР.

Коллектив кафедры и клиники оториноларингологии СПбГПМА сердечно поздравляет своего руководителя, учителя и наставника и желает ему в апогее планов по совершенствованию лечебной, учебной и организации научной работы неиссякаемой энергии и творческих успехов.

OBITUARY

ПАМЯТИ АНАТОЛИЯ ИГНАТЬЕВИЧА ЛОПОТКО



16 августа 2008 г. ушел из жизни выдающийся ученый, врач, педагог, действительный член Международной академии оториноларингологии – хирургии головы и шеи, доктор медицинских наук, профессор Анатолий Игнатьевич Лопотко.

А.И.Лопотко родился 14 февраля 1935 года в Минске. Годы Великой Отечественной войны он провел в этом городе. Там он потерял мать, испытал все ужасы фашистского концлагеря. В 1944 году, после освобождения Минска советскими войсками, 9-летнего Толю увез в Ленинград отец, Лопотко Игнатий Анатольевич, который с 1937 по 1964 год был директором Ленинградского ЛОР НИИ.

В 1953 году Анатолий Игнатьевич окончил школу и поступил в 1-й Ленинградский медицинский институт им. акад. И.П.Павлова. В годы учебы он был старостой студенческого научного общества на ЛОР кафедре, руководимой в то время профессором В.Ф.Ундрицем. Будучи студентом 5-го курса, привлекался к работе организационного комитета V съезда оториноларингологов СССР. Кроме оториноларингологии, Анатолий Игнатьевич занимался суггестологией под руководством знаменитого психотерапевта П.И.Буля. По представлению В.Ф.Ундрица, студент А.И.Лопотко на одном из заседаний Ленинградского ЛОР общества, в присутствии профессоров В.И.Воячека и К.Л.Хилова, продемонстрировал полученный им путем внушения калорический и вращательный нистагм, а также его подавление в гипнозе. Но студенческая жизнь – не только учеба. А.И.Лопотко очень увлекался музыкой, пел в вокальном ансамбле и хоре, которым руководил тогда известный дирижер и композитор А.А.Броневицкий, организовавший незадолго до открытия Всемирного Фестиваля молодежи и студентов в Москве вокальный ансамбль «Дружба». Наделенный абсолютным слухом, прекрасным баритоном и замечательным чувством юмора, Анатолий Игнатьевич был неизменным участником всех студенческих капустников.

После института А.И.Лопотко был распределен в Вологду и, пройдя короткую специализацию по оториноларингологии, с декабря 1959 года стал работать в ЛОР отделении Вологодской областной больницы. Там он получил огромный клинический опыт, освоил все необходимые плановые и экстренные операции на ЛОР органах и выполнял их не только в стационаре, но и во время вылетов санитарной авиации. В Вологде Анатолий Игнатьевич продолжал заниматься научной работой, участвовал в организации Вологодского научного общества оториноларингологов и был первым его председателем. Результатом практической деятельности вологодского периода стала публикация таких статей, как «Отогенные абсцессы мозга и мозжечка», «Моделирование субъективного шума в ушах и нистагма в гипнозе», «Синдромы Бехчета и Когана», «Отогенный гнойный вентрикулит с благоприятным исходом», «Тонзилэктомия под гипнозом».

В декабре 1962 года А.И.Лопотко вернулся в Ленинград, начал работать в ЛОР НИИ младшим научным сотрудником, а в 1963 году поступил в аспирантуру. Аспирантские экзамены он сдавал академику В.И.Воячеку и профессору В.Ф.Ундрицу. В 1966 году Анатолий Игнатьевич успешно защитил кандидатскую диссертацию на

тему: «Аудиометрия шепотной и фильтрованными полосами звонкой речи» и стал ассистентом ЛОР кафедры Ленинградского санитарно-гигиенического института, в котором проработал с 1966 до 1978 года. В это время ЛОР кафедру возглавлял выдающийся клиницист и хирург проф. Б.М.Млечин. В 1966-1974 гг. А.И.Лопотко провел серию исследований по импедансной аудиометрии, которые были пионерскими не только в нашей стране, но и за рубежом. По результатам этих исследований в соавторстве с В.В.Успенским и Б.Г.Гинзбург (1975) был разработан и изготовлен первый отечественный коммерческий импедансный аудиометр ИМ-01. Без отрыва от основной работы Анатолий Игнатьевич учился на факультете биомедицинской кибернетики СПб заочного политехнического института. Одновременно посещал лекции по биофизике профессоров П.О.Макарова и С.Н.Гольдбурт в ЛГУ. А.И.Лопотко был настоящим ученым с поистине энциклопедическими знаниями.

В 1978 году Анатолий Игнатьевич перешел в 1 ЛМИ (Санкт-Петербургский государственный медицинский университет им. акад. И.П.Павлова), где продолжал работать до последних дней жизни. В 1978-1983 гг. он был ассистентом кафедры оториноларингологии, в 1980 году защитил докторскую диссертацию на тему: «Особенности возрастной инволюции слуховой функции у человека», с 1987 года стал доцентом, а в 1988 году получил звание профессора.

С 1991 года А.И.Лопотко в течение 17 лет заведовал Лабораторией слуха и речи СПбГМУ им. акад. И.П.Павлова, с 1992 года одновременно был заведующим отделом нормальной и патологической физиологии лабиринта СПб НИИ уха, горла, носа и речи. Наряду с клинической практикой, Анатолий Игнатьевич по-прежнему увлеченно и плодотворно занимался научно-исследовательской работой. В сферу его научных интересов входили аудиология, сурдология, отоневрология, лазерная хирургия, физиология и патофизиология лабиринта, голосовые расстройства, суггестология. Он автор более 250 научных работ, 8 монографий, большого количества авторских свидетельств, патентов, рационализаторских предложений. Среди книг, написанных с участием А.И.Лопотко, - «Старческая тугоухость» (Ашхабад, 1985), «Лазеры в ринофарингологии» (Кишинев, 1991), «Лазерная хирургия в оториноларингологии» (Минск, 2000), «Слуховая труба» (СПб, 2003), «Фармакотерапевтический справочник сурдолога-оториноларинголога» (СПб, 2004), «Шум в ушах» (СПб, 2006), широко известные оториноларингологической общественности. Анатолий Игнатьевич принимал участие в разработке новых технических средств и методов, используемых в оториноларингологии и сурдологии, являлся руководителем многих кандидатских и докторских диссертаций, был членом редакционных советов журналов «Российская оториноларингология», «Вестник оториноларингологии» и «Folia Otorhinolaryngologiae». В 1995 году профессор А.И.Лопотко был награжден памятной медалью «Человек года» американского биографического института за выдающиеся профессиональные достижения.

С 1988 по 1990 гг. А.И.Лопотко был главным ученым секретарем всесоюзного научного общества оториноларингологов. Был членом специализированных ученых советов СПбГМУ им. акад. И.П.Павлова, Санкт-Петербургского педагогического университета, НЦ аудиологии и слухопротезирования МЗ РФ, членом Комиссии по новой медицинской технике МЗ РФ, почетным членом всероссийского общества аудиологов. В течение многих лет А.И.Лопотко руководил одним из психофизиологических научных направлений в советском Центре управления космическими полетами. Награжден знаками «Изобретатель СССР» и «Советского Центра управления космическими полетами».

Анатолия Игнатьевича отличала не только необыкновенная широта знаний, эрудиции, а еще и удивительная щедрость: его голова была всегда полна идей, которыми он, не задумываясь, делился с окружающими. Он был очень добрым,

деликатным человеком, как это свойственно старым интеллигентам. А.И.Лопотко любили все – и сотрудники, и пациенты, и его многочисленные ученики.

Светлая память об Анатолии Игнатьевиче Лопотко навсегда сохранится в наших сердцах.

Коллектив Лаборатории слуха и речи и кафедры оториноларингологии СПбГМУ им. акад.И.П.Павлова

Российское общество оториноларингологов

Всероссийское общество аудиологов

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Reference
It would be helpful for some authors to read an excellent book that has been written for doctors whose first language is not English: "Writting Successfully in Science", M. O'Connor, Chapman & Hale, 1991, ISBN 041 446308.

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